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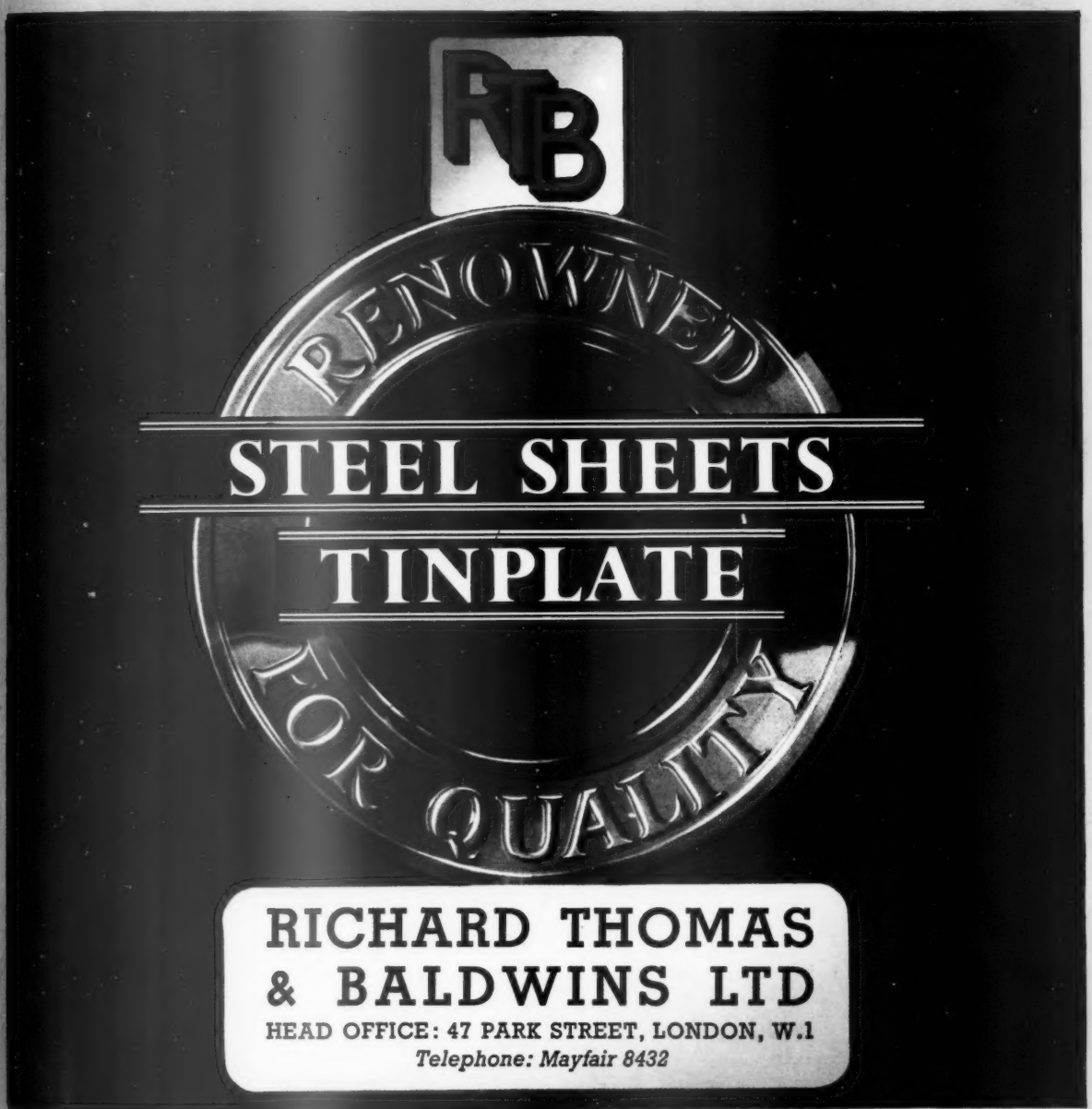

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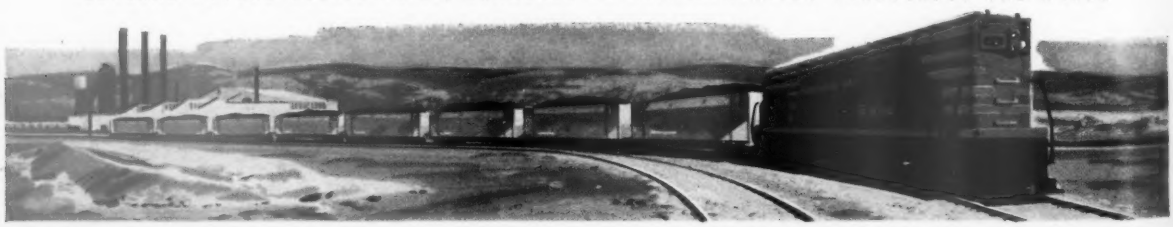

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Co-operation to Develop Railways Overseas

BRITISH locomotive and rolling stock builders have not been afforded by the railways of this country that steady home market which facilitates production for export. Even now, with substantial orders placed by the British Transport Commission for diesel and electric motive power and rolling stock under the modernisation plan, there is no indication of any radical departure from the established practice of building in railway works. No Government of the day, whatever value it has claimed to set on exports, has altered the mandate to the Commission, a semi-independent public corporation, to provide good services which will enable it to pay its way. In many other countries the State-owned railway undertakings afford a good home market for their railway equipment industries: France, Germany, and Japan are good examples. France has gone further. The technical assistance given by the French Government and the French National Railways to the Indian Railways in their industrial frequency electrification schemes in setting up the Sofrerail company and seconding S.N.C.F. technical staff, is of great significance. It is benefiting French industry, the Indian railways—and the Indian economy, which badly needs improved transport—French prestige, and the French railways and their staffs, whose morale has been enhanced. France has sold, and at the right moment, a commodity—50 cycle traction—in which the French industry and the S.N.C.F. excel. Is it too much to expect that our own Government could make possible similar co-operation between our railways and private industry in the development of railways overseas—in due time, and not only in the field of traction and rolling stock? There are several countries within the British Commonwealth and outside it—China, for instance—whose railways are ripe for development. British Railways already have much to teach railways overseas in many branches of mechanical and electrical and signal engineering. In a few years they will be acknowledged as leading exponents of main-line diesel and industrial frequency electric traction techniques. If, having by then enabled British manufacturers to build up their export trade by obtaining their motive power and other requirements from them, they were to lend the services of technical staff to railways in under-developed countries which use British-made equipment, they would greatly increase the prestige of British Railways and of the British railway equipment industries. The confidence and efficiency of British railwaymen would be increased accordingly, and the national export potential would be that much greater. It may take some little time before our railways, which are suffering from a lack of certain technical staff, are in a position to second men overseas; but the ultimate benefits justify some temporary inconvenience—as the French railways have found.

Western Region Re-organisation

MOST recent of the administrative developments resulting from the progressive implementation of the Commission's Modernisation Plan is the re-organisation now taking place on the Western Region of British Railways. This re-organisation, the details of which have yet to be worked out, is based on proposals prepared by the Region and has been approved in principle by the Commission. In common with similar plans already in effect on other Regions, the development aims at decentralisation of management. The existing Commercial and Operating Departments are to be integrated and the functions of these Departments decentralised as far as possible to Area Traffic Managers. The new organisation involves the appointment of an Assistant General Manager (Traffic), who will be responsible to the General Manager for traffic functions, and of four Area Traffic Managers with similar responsibilities within these areas. The choice of Mr. A. C. B. Pickford, Chief Commercial Manager, Western Region, as the new Assistant General Manager, is a happy one. Not only has he been directly concerned with traffic matters since 1932, when he became Personal Secretary to the Chief Goods Manager of the then Great Western Railway but, save for the period 1948-54, when he held the appointment of Executive Officer (Terminals), Railway Executive, he has served the whole of his career with the G.W.R. He thus has an intimate knowledge of the Region which will be of immense value in solving the many problems which continually arise in traffic handling and which may well be particularly apparent during the early stages of the new organisation. This will necessarily take some time to develop. As a first step it is proposed to appoint a Commercial Officer and an Operating Officer with responsibility for the headquarters functions of Commercial and Operating Departments respectively under Mr. Pickford's general direction.

Regaining Traffic for London Transport

A TIMELY warning that London Transport traffic is decreasing and must be won back is given by Sir John Elliot, Chairman of the London Transport Executive, in his New Year message to the staff. It

may surprise many to hear that London Transport today carries half-a-million passengers a day fewer than a year ago. How far increased fares have caused this, is debatable. Although the undertaking has a monopoly of public transport in its own area, there are many competitors, including television, for Londoners' money. The financial position of London Transport can be improved by reducing or suspending unprofitable services—and by refraining from wage claims. The main remedy, however, is to make Underground railway, bus, and motorcoach services as attractive as possible. In present circumstances, until the Route "C" tube line is built and other capital works carried out, the improvement of services is mainly a matter for the staff.

Redundancy at Shildon Wagon Works

RESTRICTIONS in capital expenditure in the current year are stated by the North Eastern Region of British Railways to have necessitated modification of production plans at Shildon Wagon Works, resulting in some staff redundancy. Some 60 unskilled men were given notice last week, and a further 100 men yesterday. As we went to press, the situation was being discussed in consultation with representatives of the trade unions—which shows the care taken by the railway managements today in dealing with these questions. Whether the retardation of the railway modernisation plan will result in laying off staff in other British Railways plants, or in those of private manufacturers, is not yet known. Meanwhile, the national executive committee of the National Union of Railwaymen is reported to have been asked to take "immediate steps" to secure the "return" to the railway workshops of orders for rolling stock placed with private builders. Some soft-pedalling by the Government of restrictions on capital expenditure seems inherent in remarks made since the resignation of the Chancellor of the Exchequer, Mr. Peter Thoneycroft, by the Minister of Transport, Mr. Harold Watkinson; the modernisation plan, he stated, would proceed without the enforcement of rigid curtailment of effort and expansion.

Intermediate Stops of Passenger Expresses

NOW that much hard work is being done on this year's summer passenger timetables, one can hope for more new thinking about intermediate stops, especially of main-line trains. The Eastern Region recently reduced the number of stops of some night expresses, to minimise disturbance to sleeping passengers. This principle might be extended not only to more night trains, but also to day expresses. Hardly any journey in this country is long enough to justify a stop to enable passengers to stretch their legs (often, abroad, while engines are changed or water tanks replenished); and with an already full train an unnecessary stop is often an irritant and a disturbance to the passengers in it. Where parcels and mails, or little-used passenger train connections, occasion intermediate stops unimportant from the point of view of major through passenger trains, these factors should be examined. Certain stops seem to have been included since the line was opened, and to persist long after the reasons for them have disappeared. The rostering of the one driver of a diesel or electric locomotive is going to revolutionise some main-line timetables to conform with the new agreement as to manning. Meanwhile, there is scope for co-operation between commercial, operating, and motive power staffs; this is where the new traffic managements should show what can be done.

Institute of Transport Annual Report

THE membership of the Institute of Transport is now approaching the 10,000 mark, and its influence overseas is spreading ever wider. The annual report for the year ended September 30 last shows a net gain in membership of 237, compared with 105 in the previous year. In the student grade, the increase in new elections of 121 is a matter for congratulation, as is the transfer of 142 members, against 130 the year before, to Associate Membership. The least satisfactory feature, as the Council of the Institute recognises, is that the net increase of 186 students during the year involved the administrative servicing of 1,568 students. There were 877 additions to this grade but also 691 deductions, including 211 resignations and 283 erasures. It seems that far too many young railwaymen, and young men in other forms of transport, are not prepared to persevere with the four years of steady spare-time study which normally lead to Associate Membership. Approval was given for the formation of a Pretoria Group of the Southern Africa Division and of a Newcastle Group of the New South Wales Section. A New Zealand branch may be formed and Pakistan has been formally recognised as a country in which a Section might be set up. Good progress was made with the project for establishing a readership and research fellowships in transport economics and organisation in the University of Oxford.

Urban Railways in Europe

IN the last few weeks, two members of the London Transport party which visited Hamburg, Berlin, Moscow, Leningrad, Helsinki, Stockholm, and Copenhagen in the autumn of 1956 have read papers on the urban railways which they inspected in those cities. In a recent paper to Railway Students' Association, Mr. C. E. Dunton, Chief Civil Engineer, London Transport Executive, stated that all the countries visited are making great progress with urban transport. In Hamburg, 85 per cent of the cost of construction of new cut-and-cover tunnels under the streets is paid for by the State, which carries out the work; the railway itself, the Hamburger Hochbahn, is responsible for equipping the tunnels and providing the rolling stock. This equipment is financed by State-guaranteed bank loans. In Berlin there is a long-term plan for underground railway development, applying to the whole city, both Eastern and Western Zones. Some of the work is already in hand. The cost of cut-and-cover underground construction under a street is some £2-3 million a mile in dry conditions and considerably higher if the line is below water level. New lines may be built on the surface parallel to main roads, reducing the cost to £1 million a mile. The City of Stockholm finances all capital underground works and operating losses on the urban lines are recouped from the city rates. A new connecting line between the southern and western systems was opened on November 24. A new south-west to north-east line will be started next year and yet a further line is under discussion.

Underground Lines in Russia

THE second paper, by Mr. F. G. Maxwell, Operating Manager (Railways), London Transport, was given to the Metropolitan Section of the Institute of Transport recently. In Moscow, he states, all factories and many administrative organisations work double or treble shifts and weekday travel peaks do not seem to exceed the Saturday morning movement in London. There is a heavy cross-city movement all day between the main-line termini. Some 2,000,000 people cross Moscow daily in transit from one part of Russia to another, and the total traffic on the Metro, which he describes as technically a most efficient railway, is little short of 3,000,000 passengers a day, compared with something under 2,000,000 a day in London. Londoners, however, make longer journeys, so that passenger-miles in London are 3,500 million a year compared with 2,000 million in Moscow. The Moscow Circle line has been completed by the opening of the four-mile north-eastern section between the Byeloruskaya and Kurskaya terminals. An extension of the Sokolniki line as far as the University has been partly completed and a branch from the Circle line, running to the grounds of the permanent agricultural exhibition in the north, should be finished in a year's time. In Leningrad, a seven-mile underground

line was opened in 1955 connecting the Kirov Works area with the main line stations for Warsaw, Vitebsk, and Moscow. This line is to be extended under the Dneva river to the main-line terminal for Finland and then outwards to the north-west. There are plans to build, eventually, 50 route miles of railways, 40 miles of which will be in tunnel.

Tourist Travel in 1958

ADVANCE bookings received for holidays abroad by Thos. Cook & Son Ltd. continue to show an increase in popular foreign travel and a new feature presented by the agency in co-operation with British Railways will seek to capture more of this traffic. This is the series of short cruises to the nearer Continental ports on the London Midland Region's "Duke" steamers, details of which were given on page 727 of our December 20 issue. Most of Cook's new and improved offers relate to non-railway facilities—specially-chartered aeroplanes and motor coaches—but stress was laid on the savings to be made in using the special trains available in Switzerland, the French and Italian Rivieras, Austria, Spain, and Italy. These trains, negotiated in conjunction with the C.T.A.C., have in some cases been increased and offers based on the rail services thus provided permit bargains such as a week's holiday in Switzerland for £22 7s. or a fortnight in Italy or Spain for less than £30, or on the French or Italian Rivieras from £33. Holidays in the United Kingdom have not been neglected—these cover highly-organised tours including popular resorts, cruises on Britain's waterways, pony-trekking in Perthshire, and the long-standing Cook's service which is always available to supplement individual planning.

Dover-Dunkirk Train Ferry

THE train ferry between Dover and Dunkirk was inaugurated a little more than 21 years ago. Conveyance of freight wagons preceded by several months the inauguration of the through service of sleeping cars between London Victoria and Paris Nord. Both freight and passenger vehicles are built to a loading gauge smaller than that standard on the Continent. By and large, the service given—interrupted seldom by the weather, and inevitably during the last war—has been excellent. This applies particularly to export traffic from Britain of, inter alia, motorcars, and to inwards perishables. The "Night Ferry" affords comfortable overnight journeys between London and Paris and, since last June, Brussels. Many motorists and their cars also are carried. The opening in 1955 of the new lock at Dunkirk has obviated delays caused when a wind in the wrong quarter prevented the former lock gates from being opened. The ferry is a monument—one indeed of several—to the vision of Sir Herbert Walker, the General Manager of the Southern Railway, whose drive and encouragement resulted in construction of special docks and vessels. It is also a testimony to the co-operation which has continued over the years between British and French railways.

New Signalling at Dumfries

AN example of the way in which careful re-arrangement of lines and station accommodation, combined with modern signalling, can simplify the operation of traffic and effect appreciable savings is seen in the work, illustrated in this issue, completed recently at Dumfries, where the old Glasgow & South Western main line from Carlisle to Glasgow has connections, one to Stranraer, and the other to Lockerbie on the former Caledonian portion of the West Coast route. Five signalboxes have given place to two, in association with continuous track circuiting and colour-light signalling, and by a judicious combination of electrical and mechanical equipment adequate facilities for handling the traffic under the particular conditions obtaining at this junction have been provided for a reasonable outlay, with that standard of protection regarded as essential today in new work of this class.

A Transport Inquiry?

BEFORE Parliament rose for the Christmas recess there was considerable talk in the lobbies concerning an inquiry into the transport industry. It seems to have first emanated from Conservative backbenchers with interests in commercial road haulage who are dissatisfied with the working of the licensing system. The contention is that the latter no longer fulfils its purposes of regulating the number of vehicles on the roads and of limiting road and rail competition; and that on the one hand it can prove too restrictive and on the other too free according to the interpretation of the Traffic Commissioners of the system since amended by the 1953 Act. Further, it is stated, the system no longer achieves its original objective because of the unforeseen growth in "C" licences which are granted on demand and only revoked if statutory requirements are broken. With over a million such vehicles operating and only about one-tenth of that number on "A" and "B" licences, this makes nonsense of the system. Nor can it be justified as far as limiting competition of road and rail since the former has won, and is continuing to win at a dangerous rate, freight traffic from the railways.

Once the suggestion of an inquiry into the licensing of freight vehicles, on the lines of the Thesiger Committee on road passenger transport, was mooted, other Members began pressing for an inquiry into the British Transport Commission. It is suggested that since the Government legislated to meet the Commission deficits by loan, the situation has changed materially. The continuing decline in freight traffic, the delay in carrying through the modernisation programme because of the capital cuts, and subsequent rises in costs since its announcement in 1954, throws to the winds the original estimates of balancing the Commission accounts by 1961-62. An additional reason advanced for an investigation into the affairs of the Commission is that all is not well within the organisation, as (it is alleged) was evidenced by the disclosures of its purchasing procedure in the Howitt Report. Other criticisms of the Commission can be heard at Westminster, where it is frequently suggested that all cannot be as it should on the commercial side in view of its failure to hold freight traffic despite the flexibility on charging it now enjoys.

With the suggestion of an inquiry into the British Transport Commission the Opposition began to get worried. An inquiry so limited might develop into an instrument of attack on transport nationalisation and lead to a demand for further de-nationalisation of road transport, both goods and passenger. As the Opposition contends that the Commission's difficulties are mainly the result of Government policy, both its general inflationary economic policy and more specific transport policy, it would be unfair to blame nationalisation. It suggests, therefore, that if there is to be an inquiry, it should be extended to the whole transport industry. To limit it to freight licensing would be pointless, because it cannot be considered in isolation, and to investigate the Commission only would be to ignore its relationship to the rest of the industry from which it cannot be segregated. Because the Opposition policy remains that of "integration" of the industry, involving re-nationalisation of road transport, and its possible extension to road passenger also, a comprehensive inquiry might help it in formulating and justifying its policy when it returns to power. It believes that on the precedent set by most previous inquiries in reporting in favour of co-ordination of the different forms of transport it would find support for its policy in the recommendations that emerged from an inquiry.

There may be something to be said in favour of some inquiry into the industry in view of its present unhappy state. If the railways are to be saved from operating at a loss indefinitely, it would seem that some more effective form of regulation of road transport is essential. The basic aim of any such control must always be to cause the traffic to flow to the transport means most suited to it, that is, to the most economic form. That is not happening today, and the transport system of Britain is far from as economic as it should be, particularly with the advent of the European common market and free trade area. The

principal objections to an inquiry are the time which is taken to reach any recommendation—apart from delay in implementing it—the diversion of the energies of railway officers from their proper functions, and the inevitable introduction of political considerations before, during and after the actual investigation.

C.N.R. Progress in a Difficult Year

ALTHOUGH the economy of Canada was considered by many people to be reasonably buoyant in 1957 until distinct signs of recession appeared in the late summer in Canada, as in the U.S.A., last year was a difficult one for the Canadian National Railways. Nevertheless they made considerable progress in improving their services and plant. This is made clear in the year-end review by Mr. Donald Gordon, Chairman & President of the C.N.R. Like most railways in North America, he points out, his system suffered severely from the decline in many phases of the economy, which caused its freight tonnage and revenues to dwindle while costs of wages and materials continued to climb. At the end of 1957 the railway faced the certain prospect of a substantial deficit. Against this background the C.N.R., in common with other Canadian railways, has before it demands of the non-operating trades unions which, if granted, would cost the railway $77,000,000 a year. If the same provisions were extended to other employees the total annual wage bill would be increased by about $100,000,000. Evidence of progress made by the Canadian National is the opening of new lines bringing important mineral and other natural resources to markets; in improved freight and passenger service; in communications; in modern operating devices; and in more efficient administrative techniques.

Nevertheless, during the year the revenue freight tonnage showed a decline of 11,000,000, or 11 per cent. below the record tonnage of 1956. Because the greater part of this decline occurred in low-rated commodities, and also because of freight rate increases, freight revenues decreased by a smaller amount than tonnage, some 4 per cent. The major decreases were in movement of grain, bituminous coal, ores and concentrates, certain forest products, crude oil, other petroleum products and manufactures, while the main offsetting increases occurred in fuel oil, other mine products and manufactured iron and steel articles. Freight rate increases, Mr. Gordon stresses, continue to lag behind the increased costs they are designed to meet. The only major rate change in Canada during 1957 occurred on January 1 when the Transport Commissioners granted an interim general increase of 11 per cent in lieu of the interim increase of 7 per cent granted in 1956. A new application for a further 10 per cent general increase was made last autumn.

Certain competitive types of rates were widely extended during 1957 to meet increasing road competition. Last October, "piggyback" rates covering the movements of road hauliers by rail between Montreal and Toronto were put into effect. The railway also greatly expanded the number of agreed charges.

Passenger revenues rose for the third consecutive year by 3·5 per cent. Contributing factors included a record movement of immigrants and an increase of 10 per cent for first class and 5 per cent for "coach" class fares effective between certain points from September 1. The C.N.R., continuing its programme of eliminating passenger services which result in large deficits, in 1957 discontinued train runs representing an annual saving of 290,000 train-miles. On the other hand, the policy of raising the quality of passenger service where economically justified was continued. The timings of some important expresses were materially reduced. Also, 1957 saw new "RDC" railcars put into service on seven routes in provinces from Nova Scotia to Saskatchewan, which improved passenger comfort in the areas affected and led to substantial reductions in running times; these services will be extended to several other runs during 1958. Studies of new trends and possible innovations in service of meals to passengers is continuing. New "dinette" (lunch-counter style) cars were scheduled for delivery by the year-end and will be placed in trans-continental service between Montreal and Vancouver; last March the C.N.R. placed two cafeteria cars in service on an experimental basis on the "Maritime Express," between Montreal and Mont Joli; these cars, converted in the railway shops, won general acceptance and proved that savings could be effected; as a result, a third car, seating 33 passengers instead of the 22 in the two experimental cars, is being prepared for service.

During 1957 the railway continued to play its historic rôle of assisting in national development by pushing new lines into undeveloped regions, as recorded from time to time in this journal. The 161-mile westerly arm of the Chibougamau line (Beattyville to Chibougamau) was opened last November, facilitating development of large areas of the Province of Quebec rich in minerals. Work is well under way on the easterly arm running north-west from St. Felicien. A second opening marked completion of the 22-mile branch line from Bartibog to Heath Steele in New Brunswick, again for the transport of valuable mineral ores. Yet another branch became a part of the C.N.R. with acquisition of the newly-built 30-mile line from Sipiwesk on the Hudson Bay line in Northern Manitoba to the new nickel deposits being developed by International Nickel Limited, at Thompson, in the Moak Lake-Mystery Lake region.

Continued strides towards greater operating economies were made through adoption of diesel traction. By September, 1957, 70 per cent of all freight gross ton-miles recorded on the system was in diesel operation, as was 72 per cent of yard locomotive-miles and 44 per cent of passenger train-miles. By the middle of this year all train workings in the C.N.R. Atlantic Region, the British Columbia District, and lines south of the St. Lawrence will be diesel. It is expected that deliveries of locomotives during 1958 and early 1959 will make possible the progressive use of diesels in the Quebec and Alberta Districts.

To meet the expanding diesel operation, the tempo of the diesel educational programme was increased and enrolment in diesel training courses totalled 3,085 by October 31. Nearly 2,800 Canadian National employees have completed the basic course for engine maintenance and are now taking further courses to become familiar with details of locomotives of the various builders. These are most impressive figures on which the railway management should be congratulated. It would be interesting to see how they compare in proportion to the total number of men involved and the number of diesel locomotives in use and under construction, with those for British Railways. The new diesel maintenance shop at Cote de Liesse (Montreal) should be in operation by the summer of 1958 and work is under way on a similar shop at Edmonton (Calder), to be in operation by the end of 1958. Meanwhile conversion of motive power shops from steam to diesel electric repairs has begun in several places.

Studies on development of major classification yards in Canada were centred in Moncton, Montreal, and Winnipeg. Work continues on the lengthening of running loops. With the work planned for completion during 1958, sidings from Montreal to Winnipeg will accommodate 100-car trains, and those between Winnipeg and Edmonton 117-car trains. Other improvements in operating are being achieved by completion of a through teletype circuit for handling freight train manifests between Montreal, Toronto, and Winnipeg, and extension of this system through to Edmonton and Vancouver, now under way; installation of a freight car tracing teletype circuit between Montreal and Joffre and between Montreal-Capreol-Hornepayne; studies of train marshalling programmes to improve yard efficiency; work on progressive installation of C.T.C.-type signalling on the trans-continental line; and studies aimed at mechanisation of all car accounting functions.

A major aid to speed and efficiency was acquired during the year with installation of an advanced IBM Type 650 electronic computer. Housed in a computer

centre in Montreal, this data-processing machine and others working with it are progressively taking over pay computing and production of pay cheques for the entire C.N.R. system, and will also be directed at other functions requiring mass data handling. This service is used also for producing statistical information on which to base policy decisions.

The Telex service, inaugurated jointly with Canadian Pacific Telegraphs in 1956 between Canada and overseas countries, was expanded in 1957 to provide service between many of the larger points in Canada.

The year also saw acceptance by the management of a plan for a development that will eventually transform 21 acres around the Central Station in Montreal into a business, commercial, and entertainment centre.

Work Study in the Signal Department

RAILWAYS are known to be trying, as part of the modernisation plan, to make the maximum use of the latest developments in the arts of management, planning, and industrial processes. Selected staff in various grades have been given the opportunity for studying these subjects from both the theoretical and practical points of view and entrusted with the task of applying scientific principles to the several aspects of the problem of rendering the operation of the railways, in the widest sense of that term, as efficient as possible.

An important element in this task was dealt with in the paper "Work Study as Applied to a Railway Signal Engineer's Department" read before the Institution of Railway Signal Engineers on December 10, 1957, by Mr. W. Mackenzie, of the Western Region. This was the first occasion on which such a subject had been discussed before that body, although the President, Mr. A. W. Woodbridge, had referred to it in his inaugural address on April 10, 1957, to which we made editorial reference in our issue for July 5. As signal engineer of the Western Region Mr. Woodbridge has been responsible for applying work study in his own department and the paper described the ways in which that had been done and stated the advantages obtained, which have more than justified the venture.

As Mr. Mackenzie pointed out, the theories involved have been developed gradually over a long period, since the initial endeavours of the American engineer F. W. Taylor in the 1880s. It was in 1895, after 10 years of careful thought and investigation, that he produced his epoch-making paper on the theory of piecework and its application to specific processes; he also devoted close attention to the problems of industrial management generally and pointed the way to that detailed handling of them familiar today. He considered a manufacturing establishment as an intricate machine and analysed each process into its ultimate simple elements, seeking to obtain a commercial standard for every step and maintain it continuously by welding first-class engineering to sound business judgment. In 1832, when the industrial revolution was still by no means complete, the English mathematician Charles Babbage had written a short but remarkable work, prophetic in character, in which much that claimed the attention of Taylor and his successors, such as the need for fully trained operatives and staff, with tools and machines perfectly adapted to the work, was anticipated.

The application of work study and associated principles to railway shops turning out signal or other equipment doubtless does not differ in essentials from that met with in industry generally; but it does present some problems of its own referable to the types, and above all the numbers, of individual articles to be produced. The paper showed, however, that these had been effectively solved and appreciable savings thereby realised, while retaining the goodwill of all concerned without which it is hopeless to think of entering on anything of the kind. This is something far, as Mr. Woodbridge remarked, from being a mere matter of ascertaining data and of filling up forms.

Mr. W. J. Sadler, who has had to give close attention to the whole problem of work study, stressed this point in the course of the discussion and the need for adequately trained assistants when putting a scheme into operation, for it was important to distinguish between production and true productivity. The right organisation of the office side of the procedure became of first importance. He paid a well-deserved tribute to the manner in which the task had been carried through in the Western Region Signal Department, of the greatest interest to all concerned with similar classes of work.

It is in the field of day-to-day maintenance the more special difficulties are encountered and call for the exercise of more than ordinary tact and skill in taking the first steps towards a rationalisation of processes. Time was needed, of course, in which to assess adequately all the variables involved and cope with conditions not encountered when dealing with workshop operations, but Mr. Mackenzie showed that, with patience and the indispensable goodwill, very satisfactory results could be achieved, technically and economically. The circumstances now confronting the railways invest the information contained in the paper with particular value, faced as they are with the inescapable necessity of adopting every practicable means of enabling them to provide the best service to the public with the minimum expenditure of both materials and manpower.

An Enthusiast on the Right Lines

THE steam locomotive is disappearing slowly—much more slowly than many people seem to think—amid what is already a spate of books by railway enthusiasts, in several languages. The authors are often well informed and accurate; but the reminiscences and details of steam locomotives on "quaint" minor railways become wearisome.

It is refreshing a find a book on locomotives which claims to be nothing more than "a distillation of many happy hours of railway watching all over the world," which achieves its purpose—and is something more. "On the Old Lines," by Mr. Peter Allen, is the subject of a notice on another page. Briefly, the excellent photographs taken by the author on his travels in 37 countries are reproduced with informal talk and reminiscence on the subjects. As to these, he has a flair for what is interesting, strange—and not merely quaint—or pleasing. This made him choose, for one of his five Indian subjects, an East Indian Railway 4-6-0, designed in the early years of the century and one of the most handsome locomotives ever built in India; it is outclassed today and could not have been noticeable in the traffic of a great Calcutta terminus—but it was spotted.

The same fortunate gift has resulted in the illustrations of the Nord "super-pacific" at Calais on a breezy day, the Santander-Bilbao local train, the Dutch Sharp Stewart 4-4-0 at Rotterdam, the Hellenic State 2-8-0 at (of all places) Chalcis, the Cyprian 4-4-0 tender engine, Dingle terminus in furthest Kerry, the Leopoldina tank at Rio, and many others. It is not only that much is preserved in pictures which is being done away with. Mr. Allen's portrayals of the utilitarian present excel in their own right.

The comments are always pithy. He has not voiced here the views or asked the questions on broad aspects of railway working which his incisive mind could hardly have stopped from formulating; but now and then he cannot refrain—from wondering, for instance, why Adelaide should have an intensive suburban service and Singapore none at all, or commenting on the extent of standardisation on the Italian State Railways or the locomotive water problem in Western Australia. He has not included British railways; his fondness for them, he states, has diminished because of the present lack of variety caused by grouping in 1923 and subsequent nationalisation. We do not entirely agree with him on the lack of variety even today. The omission, however, is all to the good if it enables Mr. Allen to make further observations abroad, starting, perhaps, with the 10 countries he has visited which are not represented in his book.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Passenger Coach Design

January 2

SIR,—The various prototype carriages of British Railways exhibited at Battersea last summer now all seem to be in service, and passengers have been asked to say what they think of them. May I mention a few points that might be helpful in designing accommodation which incorporates the best and avoids the worst features?

Reclining seats can be restful for long journeys, and those in the Cravens open first and second are excellent, but the latter would be better if the seats were a little lower. Where reclining seats are not justified, it is important that proper support be given to the small of the back. The seats in the Metropolitan-Cammell first and second class compartments are very good in this respect, whereas the Gloucester seconds are the reverse. Also unsatisfactory, as likely to tire passengers on long journeys by not giving that vital support to the small of the back, are the British Railways prototype second class compartment and the open, bucket-seat, first. The B.R. first class compartment seats are on the high side and too unyielding under the knee.

As it is impossible to design a carriage seat that will be perfectly comfortable for everyone, the aim should be to try to get one to fit the majority. Including women, it is possible that there are more short than tall persons. This suggests that it would be better to have seats rather smaller than would be ideal for the tall, who would not thereby suffer discomfort to anything like the same degree as short people on wide seats, especially if they are also too high under the knees to allow the feet to rest firmly on the floor.

Apart from interior comfort with good ventilation, smooth, quiet running is much appreciated; the design, therefore, of bogies and suspension so that this characteristic will be maintained even after wear and tear sets in, is important.

The most restful journeys I have enjoyed of late have been in French trains, particularly the "Mistral" between Paris and the Riviera. The stock used in this train is worth studying.

Yours faithfully,

W. A. WILLOX

Edstone, Wootton Wawen,
Solihull, Warwickshire

Hydraulic Buffers

December 18

SIR,—In your editorial comment on hydraulic buffers in your issue of October 11, you state that buffing speeds can be increased from 4 m.p.h. to 10 m.p.h. It would be most unfortunate if the advent of the hydraulic buffer was taken as a signal to increase buffing speeds. There are far too many freights, both at present travelling by rail and which we hope to win back to rail, that can be damaged by high-speed impacts, whatever type of buffer is used. It is a fact that buffing speeds have already increased to up to 10 m.p.h. and that existing yards could not possibly cope with the traffic if this speed were reduced; but I am sure the hydraulic buffer will serve the railway best if it is considered as a palliative for excessive buffing speeds rather than as allowing such speeds to be perpetuated.

It is true that wagons with hydraulic buffers can be shunted at 10-12 m.p.h. without damage to themselves; but it is not true that the freight can necessarily withstand such a shunt. Hydraulic buffers will enable the present excessive shunting speeds to be continued with a great reduction in the spillage of mineral loads that can take place at excessive speeds of impact. However, loads that by their nature cannot be rigidly fixed to the wagon, such as machinery and steel in all its forms, are only given a comparatively small increase of shock resistance by the use of hydraulic buffers. Such loads can only be made to resist high speeds of impact if they can be decelerated over a longer distance than the 9 in. of two pairs of standard hydraulic buffers. A shock absorber wagon is one way of increasing this distance. Other methods are to increase the buffer stroke or to load the wagon in such a way that controlled sliding can take place.

Yours faithfully,

D. L. TURNER

British Railways Research Department,
London Road, Derby

Planning a Freight Transfer Depot

December 24

SIR,—Whilst agreeing with your correspondent in the issue of December 13 as to the desirability of the container principle, I am slightly puzzled by his reference to "the ease with which the container can be transferred from road to rail."

It is precisely the difficulty of transferring the container which has delayed development of this form of transit. The great majority of railway stations, with antique cranes, are unsuited or unable to handle containers. Traffic in containers is confined to the very large depots where high-jib cranes, mobile cranes, gantries, or fork-lift trucks can be economically provided.

It is evident that either the method of transferring containers must be changed, or else the present pattern of small and scattered freight depots. The logical conclusion seems to be to concentrate traffic into zonal railheads, where numbers of containers could be expeditiously and economically transferred from rail to road, and vice versa, by modern handling devices.

Yours faithfully,

J. D. M. PARKER

20, Lancelot Avenue, Wembley Middlesex

Heat and Noise in the Cab

January 3

SIR,—I was interested to read in your issue of January 3 of the theories put forward about the possible effects of heat, noise, and physical effort on steam locomotive enginemen.

As one who has done a very great deal of travelling on the footplate, however, I would say that, at least in normal climates and with the usual type of cab, the problem is rather to keep warm than to keep cool, and when running one can stand close to the boiler frontplate without any discomfort at all.

No matter how good a spectacle window is provided, drivers of all nationalities usually prefer to keep one eye out of their side window in all weathers and even with temperatures of 130° F. and more in the shade, as in Iran, I have never noticed any apparent lack of vigilance due to heat. My personal experience is, however, that steady and rhythmical noise can indeed tend, if one permits it, to lull the senses.

As regards physical labour, except in some very unusual circumstance, this does not arise in the case of the driver, who, apart from periodical assistance from his fireman, is the one who is directly and continually responsible for observation of all signal aspects.

Yours faithfully,

W. L. TOPHAM

The Vulcan Foundry Limited, Locomotive House,
Buckingham Gate, S.W.1

THE SCRAP HEAP

Duck Damages Diesel

The 5.22 diesel railcar from Norwich to Yarmouth, British Railways, Eastern Region, was stopped by a large wild duck which flew through the cab windscreen and injured the driver. The driver, Mr. T. Field, stopped for first aid. The duck died. It made a pre-Christmas dinner for Mr. Field.—*From the "Daily Express."*

Flowers from the Delectable Duchy

Since January 1, the "Royal Duchy" express of the Western Region, which leaves Paddington at 1.30 p.m. for Penzance and Penzance at 11 a.m. for Paddington each weekday, has had flowers on the restaurant car tables which are being provided specially for the train by the Duchy of Cornwall Home Farm in the Scilly Isles. Special deliveries of early flowers are made for exclusive use on this service regularly for the next five months, and small labels attached to the blooms tell passengers the names of the species.

The Western Region is very closely associated with the Duchy. In January, 1957, the name "Royal Duchy" was given to these trains. Nor is it out of place that Scillonian flowers be used as table decorations, as the Western Region carries over 70,000,000 blooms annually from Penzance to the London markets.

"Locomotives on Highways"

The fact that the bridge carrying the Old Brompton Road near West Brompton Station, District Railway, now an important thoroughfare, over the West London Extension Railway, had not been expected to carry even the heaviest traffic—traction engines—of the pre-petrol age, or in the days after 1898, when motor-cars were still light, is shown in the notice depicted in the accompanying illustration. The board was spotted when Sir John Elliot, Chairman, and other officials of the London Transport Executive were inspecting the new bus electronic scanning indicator ("BESI"—see our December 27 issue).

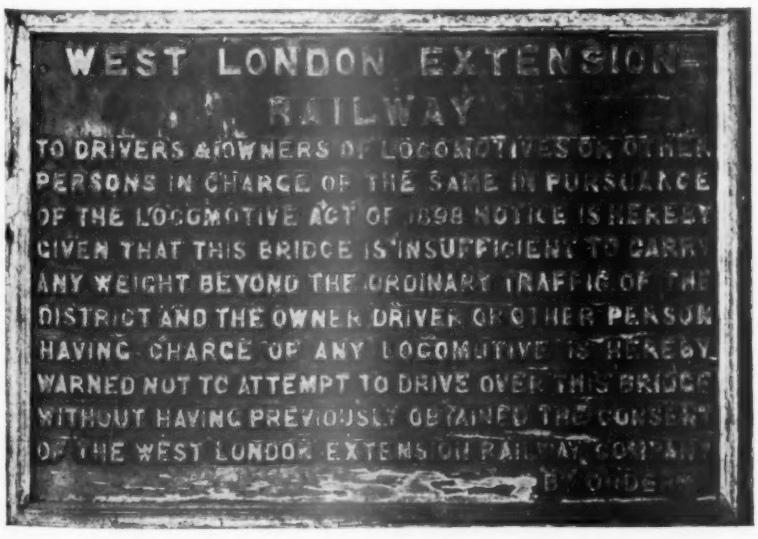
From 1861, mechanically-propelled road vehicles were described in Acts of Parliament as "locomotives on highways," and it is in this sense that it is used in the Act of 1898. The term motor-car was legal phraseology after 1903, when it was used for lighter types of vehicle. With the introduction of road motor vehicles, there was much litigation, in which railways were involved, as to whether use of heavy motors constituted "extraordinary traffic." The W.L.E.R. notice was a warning of a kind widely used, designed to protect bridge owners from having to rebuild.

L.T.E. Permanent Way Safety First Poster

Some three years ago London Transport set up a Permanent Way Accident Prevention Committee to put into effect ways of impressing on permanent way staff the necessity for exercising care when in the vicinity of railway track. The accompanying illustration is of a poster being displayed in all permanent way messrooms on the Underground system. It is the second of a series of four. On each poster are reproduced cartoons drawn by Mr. A. Gorton, of London Transport railway operating staff.

Other methods of approach are the issue of a booklet, "Safety on the Track," to each member of the staff; training of all new members of the staff at the Permanent Way Training School; and the posting of notices drawing attention to particular incidents which have resulted in accidents to staff. Occasional lectures, illustrated with a special film, "Safety on the Track," are given during working hours.

The second of four new L.T.E. safety first posters. Lettering and snake are red on a black background



West London Extension Railway notice board near West Brompton

First and Last Runs

A feature of the closing of the Easingwold Railway on December 27 was the fact that the man who first drove the train when the line was opened in 1891 also helped to drive the last train. Mr. Sidney Smith, when the line was originally opened with great celebrations, was privileged to drive the first train, because his father, Mr. George Hudson Smith, had provided the £200 which was necessary to pay for the passing of the Bill through Parliament. After the last train had run over the three-mile single track from Easingwold to Alne, Mr. Smith rode back to Easingwold by motorcar.

Compliance with Orders

When the Nazis occupied Dunkirk in 1940 they had top-level instructions to preserve the [Dover-Dunkirk] ferry terminal. The Fuehrer had visions of riding in luxury to a conquered London. Although things didn't turn out that way the ferry was carefully repaired and maintained throughout the occupation. When the Germans fled they carried out a very thorough orgy of wrecking. Alone among the installations of France's third largest port the ferry terminal was left intact. The reason: the Nazi commandant could find no instructions rescinding the four-year old order. So he obeyed it to the letter.—*From the Southern Region edition of "British Railways Magazine."*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Timetable in Regional Languages

The current passenger timetable of the South Eastern Railway is on sale in English and Hindi, also in Bengali, Oriya and Telugu, the regional languages of the various States served by this railway. A feature is that the railway map of India besides the map of the South Eastern Railway attached to the timetable now contain the station names in all the regional languages excepting Oriya.

CHINA

Railway Loan Sought from U.S.A.

Railway construction is one of the projects for which the Chinese Government is reported to have asked the Government of the U.S.A. for a loan of £5,500,000.

UNITED STATES

Closing Little-Used Stations

A determined effort is being made by the Chicago & North Western Railway to eliminate station facilities for which there is very little present use. The railway is petitioning the South Dakota Public Utilities Commission for authority to close 69 stations or depots in the state that are now manned by a single agent only, and at which the agent's work averages no more than 2 hr. a day, all the work of former days having been transferred to the roads. Central depots or agencies would be established at suitable points to focus traffic from surrounding districts on to the railway. It is calculated that the saving in South Dakota alone from the implementation of this plan would amount to $250,000 annually.

In support of its case, the C.N.W.R. points out that the actual time worked by station agents in South Dakota ranges from 68 per cent down to as little as 2 per cent and averages 16 per cent; for each revenue-earning wagon handled the average wage cost of the agent is $13, and the average wage per hr, actually worked ranges from $3 to as much as $91, with a mean of $14. Between 1947 and 1956, while the number of C.N.W. employees at small stations dropped by 9 per cent, smalls tonnage fell by 75 per cent, basic commodity carloads by 37 per cent, and passenger traffic by 38 per cent.

Aluminium Doors in Freight Cars

The Pennsylvania Railroad is installing 50 aluminium doors on two different types of box cars. They are the first welded aluminium box car doors in the U.S.A. They are 8 ft. high and weigh 50 per cent less than steel doors.

ARGENTINA

General Roca Railway Accidents

Twelve passengers were killed and 37 injured in a recent derailment between Fortín Uno and Benjamín Zorrilla stations of the General Roca Railway, when a passenger train from Buenos Aires to Zapala left the rails as a result of a broken axle on a tank wagon. A refrigerated wagon, two tank wagons, two baggage cars, a postal van, a second class coach, a first class coach, a mixed coach and a restaurant car were destroyed, the only ones not damaged being two sleeping cars and a Pullman car. Some 273 yd. of track were destroyed, and an auxiliary track had to be laid to restore services.

A similar accident took place a few days later on the same line, 11 miles from Bahía Blanca. The cause was again a broken axle, but there were no casualties and only light damage. A further accident occurred on the same railway and in the same zone as the previous two. In this case also a broken axle was the cause of the derailment of a restaurant car, a first class coach, two second class coaches, and a baggage van.

FORMOSA

Motive Power Policy

The Taiwan (Formosa) Railway Administration has announced that it will not purchase any more steam locomotives from abroad. It is intended to replace all steam locomotives by diesels during the next 15 years. A new programme of rolling stock construction in the Administration's own workshops includes 100 passenger vehicles and 600 wagons a year.

DENMARK

Reinforced Concrete Bridges

A bridge built in Denmark recently to carry a railway track over two others is placed at a very acute angle to the tracks below, making it very difficult to place the piers below the bridge deck in the normal manner. Some of the supporting columns have therefore been placed outside the line of the bridge itself, carrying the weight of the bridge on semi-circular projections built out from the bridge, and other supports consist of one column only, placed centrally below the deck.

A similar bridge was built at Valby, in the western part of Copenhagen, carrying an up track for electrified

Nohab-General Motors diesel locomotive of Danish State Railways on bridge over motor road

Detail of concrete construction of skew bridge near Knudshoved

suburban trains over a down suburban track.

On the motor road to the new Halsskov-Knudshoved ferry route, described in our issue of December 13 last, another unusual bridge has been built. The road passes under the main railway between Nyborg and Odense. As will be seen from the illustrations on page 40 the supporting columns are V-shaped. By using this method of construction it has been possible to reduce the spans and therefore the height of the bridge deck. It would otherwise have been necessary to raise the track or lower the road, which would have cost far more than the difference between the cost of this bridge and that of a more conventional type.

BELGIUM

Diesel Locomotives

Delivery last year of four 1,900-h.p. C-C locomotives by S.A. Anglo-Franco-Belge brought the strength of diesel line locomotives of the S.N.C.B. to 95, of which 55 were B-B locomotives of 1,750 h.p., and 40 C-C of 1,750 or 1,900 h.p. Eight of the C-C locomotives have been equipped with a gear ratio enabling them to attain a maximum speed of 100 m.p.h. They have been working expresses between Brussels and Paris and Cologne.

During 1957, 12 diesel shunters locomotives of 550 h.p. with three coupled axles and four of 750 h.p. with four coupled axles were placed in service. This brought the effective total of S.N.C.B. shunting locomotives to 107. Delivery of 10 locomotives of 550 h.p. is expected during the current year.

FRANCE

Pilgrim Traffic

For the 1957 Montpellier Diocesan Pilgrimage to Lourdes, the four trains operating from the diocese were augmented by 24 motorcoach services which brought pilgrims from outlying locations to the stopping places of the trains. As with previous pilgrimages, a uniform fare was charged throughout the diocese, irrespective of originating point. Some 300 persons or 35 per cent of the total would not have travelled but for the special road/rail arrangement and fare.

S.N.C.F. Report for National Assembly

In connection with the Government budget proposals for 1958, MM. Louis Armand, President of the S.N.C.F., Charles Boyaux, General Manager, and Vincent Bourrel, Secretary, reported recently to the Transport Committee of the National Assembly on the activities of the railways in 1957 and the financial proposals for 1958. On the same day, Monsieur Bonnefous, Minister of Public Works & Transport, also met the Committee and spoke about the current deficits of both the S.N.C.F. and the Régie Autonome des Transports Parisiens. He also explained how the cutting of 57,000 million francs from his budget for 1957 had led him to advocate the construction of toll roads; this did not mean that the usual methods of financing road construction had been cancelled.

SWITZERLAND

Improvements at Wil

Important developments are taking place at Wil, a junction 34 miles from Zürich on the main line to St. Gallen and Romanshorn. The present passenger station, built in 1855 and renovated in 1902 and 1915, is now inadequate, and is to be completely rebuilt, including additional refreshment facilities and a second subway. The communal authorities are making a contribution of over £40,000 to the cost of construction.

At Wil also the Federal Railways have recently completed a new reinforced concrete grain silo, at the west end of the station. The central tower of this is 207 ft. high, and the main structure is 140 ft. high, 266 ft. long and 51 ft. wide. The internal equipment is in course of installation, and it is expected to bring the silo into use in time to receive the 1958 grain crop.

Publications Received

On the Old Lines. Locomotives Round the World. By Peter Allen. London: Cleaver-Hume Press, Limited, 31, Wrights Lane, W.8. 8½ in. by 6¾ in. 186 pp. Illustrated. Price 25s.—The many half-tone illustrations from photographs by the author would alone make this book of exceptional interest; as it is, they are reproduced two to a right-hand page, with stimulating, and often penetrating, remarks on the facing pages. The locomotives—all manner of them—are discussed or described under the heading of the countries concerned, grouped in four chapters: Continental Europe; the Near East; Atlantic Seaboard and the Americas; and Australasia and the Far East. The third chapter includes Ireland, besides Canada, the U.S.A., and some South American countries; in the fourth are grouped India, Malaya, and Siam, with some of the territories that the chapter title more readily, perhaps, suggests. The book is the subject of editorial comment on another page.

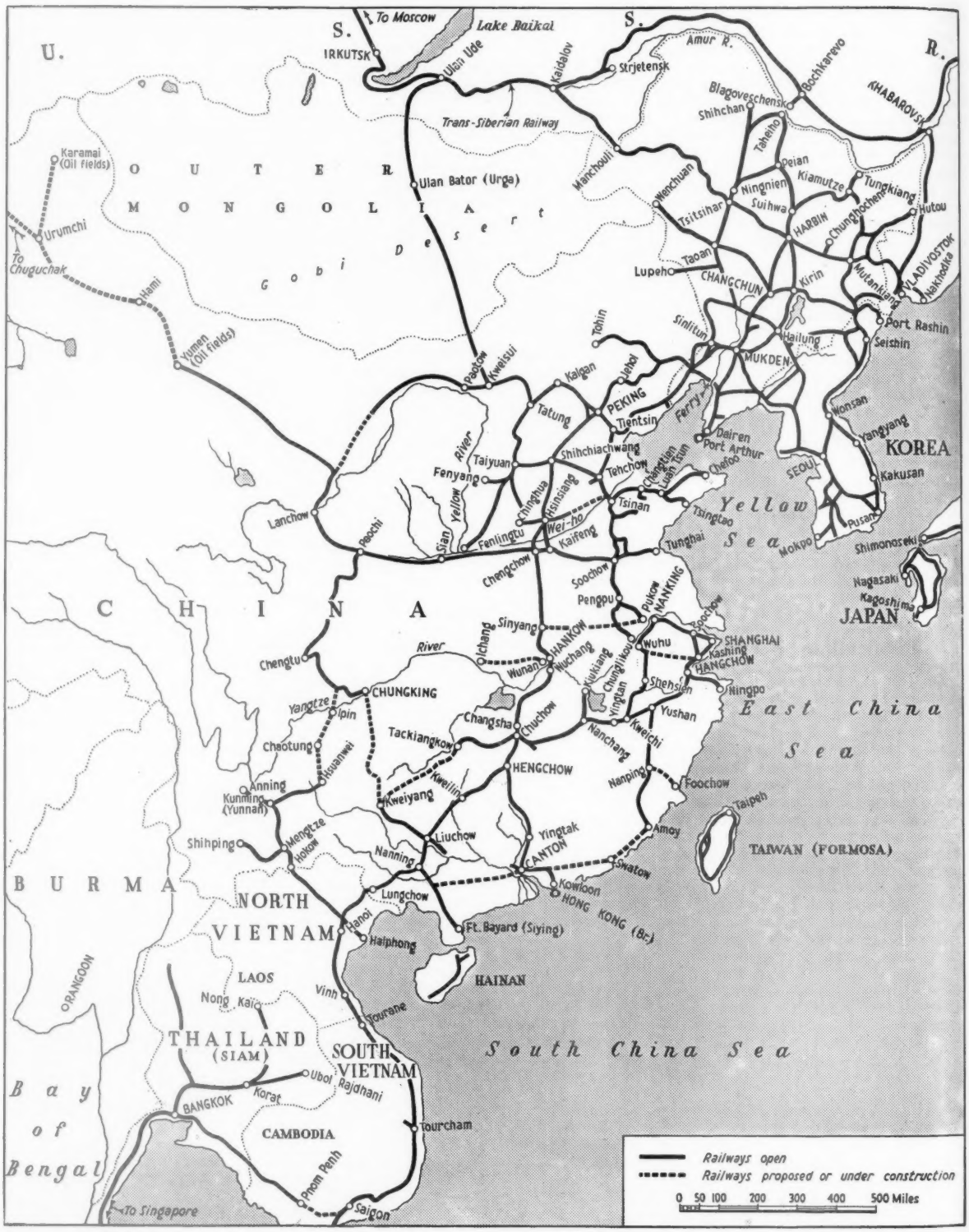
Rhodesia Railways Magazine Diamond Jubilee Number. Bulawayo, Rhodesia: published by the Rhodesia Railways. 9½ in. × 7¼ in. 82 pp. Paper covers. Illustrated. No price stated.—The November, 1957, issue of *Rhodesia Railways Magazine* is devoted mainly to the diamond jubilee, which commemorated the opening of the railway throughout from Capetown to Bulawayo on November 4, 1897. Reference to the celebrations was made in our issue of November 22, 1957. The jubilee number includes articles on the early history and development of railways in that part of Africa, also messages from Sir Roy Welensky, Prime Minister of the Federation of Rhodesia & Nyasaland and from Lt.-Colonel H. B. Everard, General Manager of Rhodesia Railways. The coloured front cover is a facsimile of the programme of events issued by the Railway Celebrations Committee in November, 1897.

Selected British Technical Journals.—London: The Federation of British Industries, 21, Tothill Street, S.W.1. 8½ × 5½ in. 15 pp. Paper covers. Price 2s.—This booklet lists some of the chief technical journals published in Britain, covering most branches of engineering and applied science. The list, it is stated, is based on the journals chosen for display in the libraries of the leading British engineering institutions. The journals are shown in alphabetical order under headings: aeronautical engineering, building and architecture, civil engineering, and so on. The intention of the compilers is to enable engineers outside the U.K., more particularly Federation of British Industries scholarship holders and others trained in Britain, to keep abreast of British engineering developments by subscribing to the journals best suited to their needs. It is unfortunate, therefore, that the railway journals are named under "mechanical engineering," and not under "civil engineering" and "electrical engineering" as well; railway civil and electrical engineers and others might well look in the booklet for some time in vain for the papers concerned with railways. A separate "transport" heading is needed.

50 Years of Diesel Progress.—This booklet of 20 pages has been published to celebrate the 50th anniversary of Mirrlees, Bickerton & Day Limited, of Stockport. The history of the company, from the foundation of the firm from which it was formed is briefly traced, and some of the important engine designs and installations are mentioned. Some of the production features of the present range of engines are also illustrated. A copy of the publication will be sent on application to the company.

Calendars for 1958.—We have received calendars for 1958 from Permali Limited, Holman Bros. Ltd., Chemins de Fer Federaux Suisses, Railway Passengers Assurance Company, Harrison & Sons Ltd., Fox Photos, Japanese National Railways, Swedish Lloyd, and the Brush Group.

Developments on the Chinese Republic Railways



The railways of China, showing connections with neighbouring countries and lines under construction

Developments on the Chinese Republic Railways

New construction, and improvements in rolling stock and operation

(*By a correspondent*)

"*Peace*" *type* 2-10-2 *heavy freight locomotive, built in China* (*see our issue of February* 22, 1957)

THE spectacular railway construction programme at present being carried on by the Chinese Government has tended to divert attention from the improvements which have been made to lines previously built. Twenty years ago, the trunk routes in China were eight in number. Four lines linked Peking with Canton, Shanghai, the North Eastern and North Western provinces. A fifth line ran from the sea to the upper reaches of the Yellow River; a sixth connected Shanghai with Canton, and the remaining two major lines were in Manchuria. All other lines were of lesser importance. These eight lines mentioned were all severely damaged both during the civil wars and the war with Japan, and much work has been necessary to bring them up to their present condition.

Through Running

The Chinese railway system was built at a time when the importance of through running was fully realised, but in spite of this certain obstacles arose which have only lately been eliminated.

From the beginning (if we except a specimen railway in the Shanghai suburbs) standard 4-ft. 8½-in. gauge was adopted with loading and structure gauges which were almost identical. Automatic couplers and air brakes were standardised and it appeared that no difficulties would arise. The first trunk lines which departed from these standards were the Russian lines in Manchuria which were built to 5-ft. gauge and used side-buffers and couplings. There followed a metre-gauge line in Shensi, built with Russian capital, and another similar line which crossed the border from Indo-China.

The next obstacle was created by the Japanese. After the Russo-Japanese war of 1904-6, the southern part of the Russian lines was converted to standard gauge, but as this was done by a loan from H. M. Harriman, the American railway financier, American rolling stock was supplied which had a coupler height of 2 ft. 9 in. instead of the 3 ft. 6 in. standard in China. All Japanese lines built to connect with this railway had the American coupler height and interchange of vehicles was thereby rendered impossible.

When Japan occupied the whole of Manchuria in the 1930s the 5 ft. gauge was eliminated, but the difference in coupler height persisted until the Japanese occupied Eastern China from 1937 to 1945. The American coupler height was then standardised throughout China and this, together with the widening of certain metre gauge lines at last removed the obstacles to through running.

New Construction

In 1949, the general plan of railways was almost exactly what it had been 10 years before. Great damage had been sustained but this had been repaired and the time was ripe for extension and improvement.

The first Five Year Plan, which ended last year, included large-scale railway construction. The first major enterprise was a line crossing the Gobi Desert to Ulan Bator, the capital of Outer Mongolia, and there connecting with a branch-line from the Trans-Siberian Railway, thus shortening the Siberian route to Peking by some 600 miles. This line is single but has three-track passing loops, long enough to take 5,000-ton freight trains, spaced less than 10 miles apart and is thus built to first class standards. To improve its entry into Peking a deviation has been built to cut out the Nankao Pass line through the Western Hills with its gradients of 1 in 30. The new line has over 70 tunnels in 20 miles, some over a mile long, all cut through rock and its maximum gradient is 1 in 100. This new line is partly doubled; tunnels are large enough to take electrification on the 25-kV. 50-cycle a.c. system.

Secondly there is the western extension of the line which starts from the coast and parallels the Yellow River from Kaifeng to Sian. This line was

Standard Pacific locomotive on 12-*coach train at Tientsin*

Fifth passing place on Peking to Ulan Bator line

planned long ago and fancifully called the Great Western Railway! About 1,000 miles have been built westwards from Sian through Lanchow and Yumen, the oil-field, to the border of Sinkiang Province. Over 1,000 miles have still to be built before it reaches the frontier of the U.S.S.R. and connects with the Turk-Sib Railway. The discovery of a very large oil-field at Karamai, about 100 miles north of the route of the projected railway beyond Urumchi may hasten its construction.

Third comes a railway connecting the western line between Sian and Lanchow with the Chunking-Chengtu Railway at the latter city. The Paochi-Chengtu Railway is about 300 miles long and includes a very difficult mountain section through the Chin Ling Mountains.

To penetrate the divide between the Yellow and Kialing Rivers there is a section of over 10 miles of 1 in 30 grade, having 34 major tunnels; this includes a spiral tunnel, and another 1½ miles in length. The tunnelling is all done in unstable rock, which has necessitated lining throughout, and requires close attention as rock-falls still occur at times. The tunnels are of sufficient height to permit electrification of the 25-kV. 50-cycle a.c. system, which will be done as soon as the nearby hydro-electric scheme is completed.

Lines in the South and S.E.

The fourth major construction is the recently opened line on the south-east coast. This begins at Yingtan on the Shanghai-Canton line, passes through Nanping, which will be a junction for Foochow, and ends at Amoy. Eventually it will continue south-westwards passing near Swatow and ending at Canton.

The fifth important line built recently is the one linking China's railways to those of North Vietnam, permitting through running to Hanoi. The construction of this line included the long branch line to Tsamkong on the south coast, which used to be the French concession formerly known as Fort Bayard.

Certain other lines have been built which are of lesser importance. Lines now under construction include the Nanking-Foochow line already mentioned, and the linking of the line to the north west, which formerly ended at Paotow, with the western line north of Lanchow. About 200 miles remain to be built of this line. A third new line is being built to link Chunking with the south.

Projected Railways

Projected lines include several in the far West, linking Kashgar, Lhasa and Kunming with the main centres of China with certain other lines aimed at opening up other parts of the interior. The drive to improve the railways, therefore, continues unabated, and Dr. Sun Yat Sen's vision of 100,000 miles of railway for China is coming closer to realisation.

Apart from the stations and rolling stock, the first improvement that is noticed by anyone who was acquainted with China in the past is the state of the ballast. This used to be, with the majority of lines, thin and dirty. Now, on all trunk lines, deep, clean, weed-free ballast as cleanly and neatly maintained as any in the world is universal and must contribute not only toward smoothness of travel but also to longer sleeper life. The 85-lb. rails themselves are forty feet in length, but now that 78-metre rails have been successfully rolled at Anshan, longer rails may soon be standardised. On some of the main lines the rails are over 30 years old but a considerable amount of re-laying is being done as opportunity allows. Soleplates are used as most sleepers are of creosoted soft wood, while screw spikes are used on some lines.

Additional Trackage

Double track in China does not at present comprise a large percentage of the total mileage. The main lines from Peking to Manchuria and from Dairen to Changchun were double-tracked more than 30 years ago because of the heavy traffic passing over them, and the trunk line from Peking to Hankow is at present being doubled as referred to in the editorial article in our issue of November 29, 1957.

Most of the Chinese railways were built with bridges to Cooper E-35 standard and these have always been a limiting factor on locomotive size, as axle-loads could not exceed 17½ tons. A major programme of bridge strengthening is being completed on most of the trunk lines. The first bridge ever to span the Yangtse River, at Wuhan (Hankow), was opened to traffic a few weeks ago.

Signalling, though less elaborate than systems in use in some other countries

Canton-Hankow Railway 4-8-4 locomotive at Nanking, on Shanghai-Nanking line; these engines, designed by K. Cantlie and built by the Vulcan Foundry Limited, are used on the former S.N.R. because of their weight

with comparable tracks, has been adequate, as is proved by the remarkable freedom from major accidents which has always been a feature of Chinese lines. The signals used are of the semaphore type and telephonic train control is in use on nearly all the major lines; the electric staff system continues to give excellent service.

Motive Power

China is a coal-producing country and as a consequence the steam locomotive continues in general use, though the building of hydro-electric power stations which is now proceeding in many parts of the country will permit the electrification of some of the mountain sections of the railways. Investigation is proceeding of the relative merits of high-voltage 50-cycle a.c. as opposed to d.c. Suburban electrification has not as yet got beyond the planning stage, but the increase in the population of the large cities will inevitably cause its adoption at no distant date.

Large oil deposits have been discovered in China but the largest oil field is still a long way from any railway. Yumen, however, has been reached by the new Western Railway and an oil refinery is under construction at Lanchow. It is consequently intended that tests should be carried out to decide upon suitable types of diesel locomotive, that China may be prepared to extend the use of this form of motive power when oil becomes available in increased quantities.

Meanwhile, construction of the standard 4-6-2 and 2-8-2 freight locomotives continues, while a new 2-10-2 freight locomotive of 63,000 lb. tractive effort and 20-ton axle-load has been built and is undergoing trials prior to its standardisation. For passenger work the intention is to design a new passenger engine of 4-8-4 type. This will follow in several respects the 4-8-4 locomotives designed by the Ministry of Railways in 1933 and built by the Vulcan Foundry Limited in 1935, but the new locomotives will have a 20-ton axle-load, against the 16-ton axle-load of the present locomotives.

Passenger Stock

Passenger coaches are of all-steel construction, 70 ft. long, with a tare-weight of 40-45 tons, varying with the internal arrangements. The present passenger cars have been supplied in large quantities to all railways. Chinese passenger trains are, therefore, more uniform in appearance than those of any other country. A new type of passenger car is now under construction with fluted sidesheets and a new design of bogie. It is a modern design in every way and the cars ride very smoothly, though it is unfortunate that they are not uniform in appearance with the previous standard.

The number of classes has been reduced to two, the second class cars having no upholstery. For night travel there are four-berth and six-berth sleeping compartments for first and second classes respectively. Restaurant cars are of normal design and cater for both classes.

The Yangtse bridge (since completed) under construction

Wagons

The former standard 40-ton wagons have been superseded by 50-ton wagons, covered, open, and cistern, all being built in considerable numbers. Riveting has been largely replaced by welding, and the bogies of all these vehicles are of the cast-steel arch-bar type, the castings for which are provided by Chinese foundries who turn out work of high order. Ninety-ton capacity low-loader wagons are fitted with six-wheel articulated cast-steel arch-bar bogies of excellent design and workmanship.

Main-line passenger trains average about 13 bogie vehicles, and thus have an empty tare weight of about 550 tons; freight trains consist of about fifty wagons with a loaded weight of some 3,000 tons. On the Nanking-Shanghai line, 18-car passenger trains and 4,000-ton freight trains are normal.

A complete change has taken place in the locomotive operating methods. Each locomotive is assigned its own crew of nine men, the senior of the three drivers being in general charge. The engine crew not only drives the locomotive but also cleans it and does minor repairs: the packing of glands, grinding of boiler fittings and other similar work. The general condition of locomotives is excellent. They are clean and well maintained with no steam leaks or slackness in boxes and brasses.

Locomotives go in for heavy repairs at depots after 112,000 miles for passenger locomotives and 88,000 miles for freight locomotives. This includes wheel turning and boiler internal examination. After 190,000 miles locomotives go in for intermediate repairs, and after 250,000 miles for general repairs in central shops.

Nanking-Pukow train ferry berthing at Nanking

Railway Tunnel under Netherlands North Sea Canal

Rail and road tunnels recently completed under the widened and deepened ship canal at Velsen

(Left) excavation for southern half of tunnels, with backfilling over tunnels; sheet-piling ring cofferdam (centre); and original canal before widening and building of northern half of tunnels (right)

IN May, 1941, work began upon the construction of 6,670-ft. rail and road tunnels side by side under the North Sea Canal at Velsen. It continued until November, 1942, when the German occupational authorities ordered its cessation. It was not until early in 1952 that construction was resumed, but the tunnels were recently completed last year. The railway through the tunnel is the double-track electrified Haarlem-Alkmaar line of the Netherlands Railways.

The site chosen for them was at a point where the canal was abnormally narrow and was due to be widened to twice its former width, a fact that largely affected the decision to build both tunnels in open cut, as explained below. As the narrowness of the original channel was the result of that part of the south bank projecting out to what is now mid-channel, the whole of the widening had to take place on that bank by dredging away the projecting land.

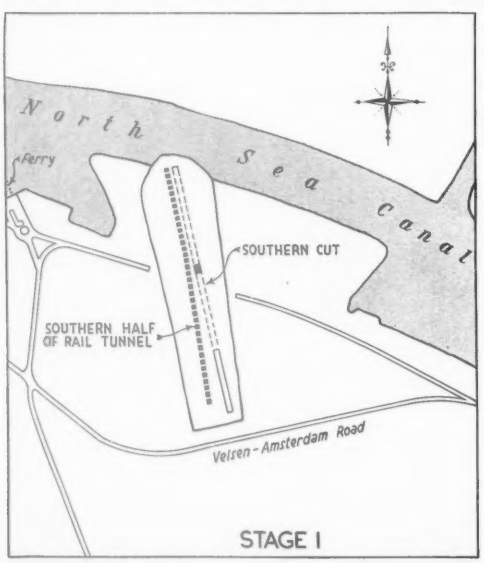
Both Halves Completed in Dry

A wide cut was first excavated along the line of the proposed tunnel behind and through that projecting area. To allow for the eventual deepening of the canal to a maximum depth of 51 ft., this southern and the northern cut had to be taken down to 84 ft. below canal level where the centres of the tunnels would be located. With the aid of pumping and the driving of a steel sheet-piling nose, the end of the south cut was pushed out slightly into the canal until the centre point of the future tunnels was reached and the canal-ends of the southern halves could be completed in the dry.

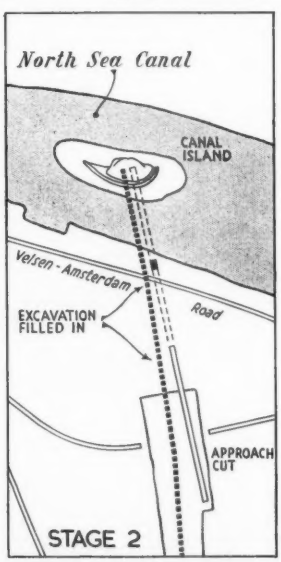
The southern halves of the rail and road tunnels were then cast in reinforced concrete with steel shuttering which could be moved forward in successive lengths. Great care was taken to waterproof the tunnels. They were clad in two layers of asphalt-impregnated felt and a layer of asbestos felt, protected with a thin layer of reinforced concrete. Moreover, three layers of sheet copper were included in the waterproofing at construction joints.

As soon as the southern halves of the tunnels were thus completed their northern ends were sealed with sheet

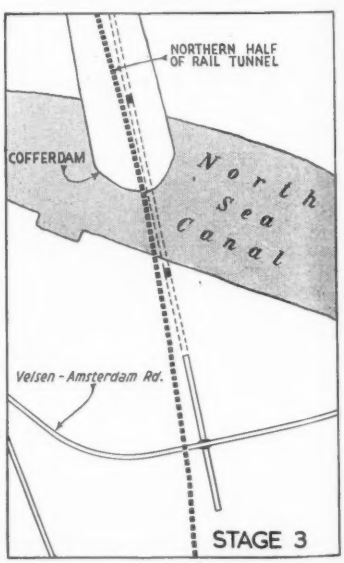
(*Continued on page* 48)



Southern half of tunnel being built in open cut to centre of canal



Canal as widened, leaving island site for cofferdam



Northern half of tunnel construction in cofferdam

Re-signalling at Dumfries, Scottish Region

Five signalboxes replaced by two, to provide modern controls and safeguard and simplify traffic operation

Layout at North Junction, showing colour-light signals, stencil type route indicators, and two-way junction indicator

THE Scottish Region recently completed an extensive programme of simplification and re-arrangement of lines through Dumfries, where the branch from Lockerbie, on the former Caledonian main line from Carlisle to Glasgow, and the line to Stranraer join the old Glasgow & South Western Railway route from Gretna Junction, north of Carlisle, to Glasgow.

Opportunity was taken by the Chief Civil Engineer to simplify connections, obtain better alignment of certain tracks, with re-positioning of the junction between main and Stranraer lines, convert the double line approach section from Lockerbie to single, with consequent extension of token working, and remodel the station layout itself, with its bay lines, as well as certain carriage sidings and motive power department tracks.

Simultaneously with this work went the provision of colour-light signalling over an area of about six route miles, with continuous track circuiting, and electric operation of certain sets of points and other facilities, which enabled the old Dumfries Nos. 1, 2, 3 and 4 and St. Mary's signalboxes to be abolished and all operation concentrated in two new ones, known as Dumfries Station and Dumfries South. (The latter has been working since October, 1955.)

New Installation

The new signalling is a combination of electrical and mechanical methods, giving maximum safety and operating facilities for a minimum outlay under the conditions obtaining. Track circuits are d.c. with transformer-rectifier feed. Whereas at the South box all points and signals are controlled by a mechanical type lever frame with the necessary circuit controllers and lever locks, in the well-known manner, the Station box has a 28 lever frame for working the points adjacent thereto with a panel above, on which are mounted signal switches, the turning of one of which will operate the points involved in the route concerned, with non-restoration feature. There are in all 96 switches below the actual track diagram, grouped handily below the junctions, etc., concerned, providing for individual operation of points should this at any time be necessary.

Layout of Station Box

The general design of the box follows the standards adopted by the Region, using red clay facing brickwork with timber fireproofed roof and low pressure hot water heating. The relay room is at the rear, off which lead the mess accommodation and other facilities provided for the comfort of the staff.

A good lookout is afforded, with double sliding windows of plate glass; the South box is of like neat construction.

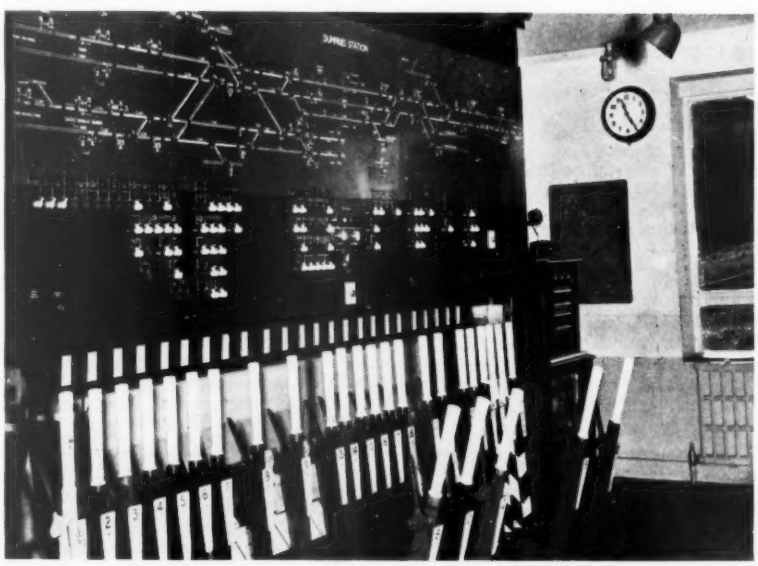
Signals and Points

Running signals are multiple-aspect, using 12V. 25W., SL.17 double filament lamps, and are repeated on the panel by a red or a yellow light, as the case requires, for "on" and a green for "off." The position-light shunt and call-on signals have 40-W. lamps burning in daylight on 110 and after dark on 70 V.

Junction indicators, in addition to both theatre and stencil type route indicators, are used, as circumstances require, in conjunction with certain of the signals. Shunt signals also are repeated on the panel by a red or a yellow light for "on" but by a white one for "off," as are the call-on signals and route indicators when exhibited. The call-on signals have, of course, no "on" indication.

Points are operated either electrically from 30-V. d.c. motor machines or manually from the lever frames, with 110-V. a.c. detection circuits; their position is repeated on the panel by luminous indicators. (Block indications also are given by such indicators, white, green or red, for "normal," "line clear" and "train on line.")

Power is provided by two separate 240-V. 50-cycle single-phase supplies coming from the South of Scotland



Interior of Dumfries Station signalbox, showing signal control panel mounted over mechanical lever frame operating points and point locks

Junction points of the Lockerbie branch, showing electrical detectors, position-light shunt signal and five-unit stencil type route indicator

starting handle is available. Transfer of load back to the mains is effected manually.

Installation Work

The work was carried out under the direction of Mr. L. J. M. Knotts, Signal Engineer, Scottish Region, whose staff installed all the outside equipment and the whole of the inter-rack and inter-panel wiring.

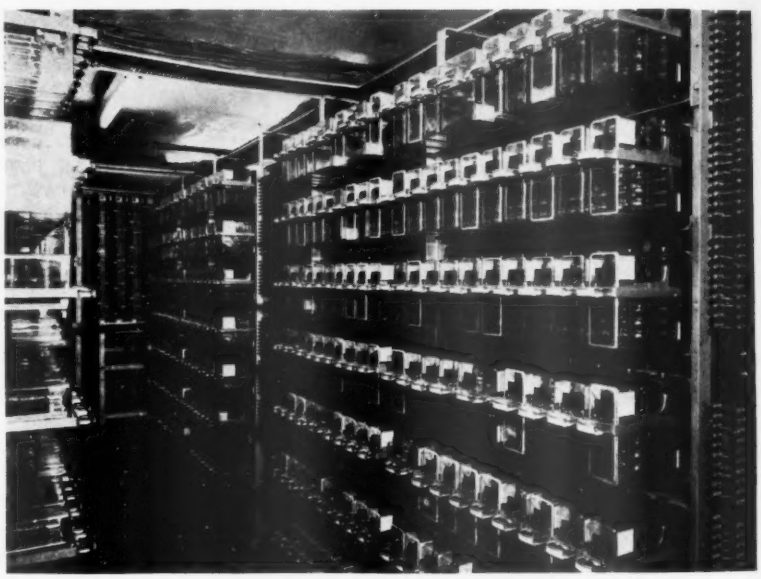
A remarkable feature is that the relay racks and panel were supplied completely pre-wired by the Westinghouse Brake & Signal Co. Ltd., using that firm's plug-in type relays and terminal boards.

Point machines and electric detector equipment were provided by the Siemens & General Electric Railway Signal Co. Ltd.

Electricity Board, one—passing through the B.T.C. switchroom—being used as the regular and the other as the stand-by feed, serving for all signalling purposes, also for some lighting, heating, and similar purposes.

To safeguard against a total failure of these sources a Petter type PD three-cylinder vertical air-cooled totally enclosed four-stroke diesel engine (B.S.S. 12-hr. rating of 30 h.p. at 1,500 r.p.m.) has been provided, coupled to a screen protected revolving armature type 240-V., 50-cycle alternator, of 18·5 kW. at 0·8 power factor. The belt-driven Magnicen exciter will maintain voltage constant within 2½ per cent on either side of normal at all loads and all power factor values between 0·8 and 1·0 without an external automatic voltage regulator.

This set can be started up after a 9-sec. delay from a 24-V. 120 amp.-hr. lead-acid type battery should either the main supplies fail altogether or their voltage fall below 90 per cent of nominal value. In case of actual failure to start, a "lock out" action comes into operation after 10 sec. motoring to protect the battery. An ordinary



Relay room in Dumfries Station signalbox; the plug-in type relays are mounted on pre-wired rack assemblies

Railway Tunnel under Netherlands North Sea Canal

(*Concluded from page* 46)

piling and the cut was back-filled round the tunnels. Meanwhile dredging had begun on the widening of the canal, but when this was completed the sheet-piling ring round the tunnel-heads was left on a small island. Navigation was then diverted from the old channel to the newly-excavated one over the southern halves of the tunnels.

Large Cofferdam

This allowed a very large cofferdam to be thrown out from the north bank along the tunnels' alignment to join up with the ring cofferdam on the island. A second cut for the construction of the northern halves of the tunnels was then excavated within the cofferdam, again with much pumping. On completion the northern approach cut was filled and cofferdam removed.

Ventilating shafts have been provided at one-third and two-thirds of the tunnel length. Five permanent pumping plants were also installed to ensure adequate drainage. The line falls to and rises from the tunnel mid-point on gradients of 1 in 60-63.

PROGRESS OF RAILWAY MODERNISATION.—The Minister of Transport & Civil Aviation, Mr. Harold Watkinson, stated on Tuesday that the resignation of the Chancellor of the Exchequer, Mr. Peter Thorneycroft, would not affect the capital expenditure programme for the railways. This had been agreed by the whole Government some time ago. During a visit to the diesel maintenance depot at Stratford, Eastern Region, he admitted that some slowing down of the programme would result from the Government's capital investment cuts. He suggested that in the long run drastic reductions would be just as damaging in the fight to beat inflation as it would be to allow everything to rush forward unchecked. The middle way was the right way, he added. "If we were penny wise we might find we were being pound foolish," he said. "It is in everyone's interest that we insist that the expansion of the nation's economy goes on. We are determined to do this." The Government's firm support for the Commission's immense modernisation plan meant that the railways were now getting the tools they needed. If the improved equipment could be matched with improved methods and productivity, then the achievement of the plan might be realised more quickly than some people were prepared to accept.

RAILWAY NEWS SECTION

PERSONAL

Sir Mark Hodgson, a Member of the North Eastern Area Board of the British Transport Commission since its inception in January, 1955, retired on December 31 on the expiry of his term of office.

Mr. A. C. B. Pickford, who has been appointed to the new position of Assistant General Manager (Traffic), Western Region, British Railways (see editorial in this week's issue), began his railway career in 1915. Following experience at stations and District Offices in South Wales he was appointed to the Staff Department at Paddington as an Outdoor Investigator in 1929. Appointed Personal Secretary to the Chief Goods Manager in 1932, he became Goods Agent at Slough in 1934. In 1937 he returned to Paddington where he became a Member of the Commercial Research Department. He represented the Great Western Railway on Liaison Committees with the Ministries of Food and Supply and on the Freight Rolling Stock Centralised Committee. In 1941, he was appointed Rates Assistant (Research) to the Chief Goods Manager, in 1943, District Goods Manager, at Swansea, in 1945, District Goods Manager, Cardiff, and in 1947, South Wales Area Assistant to the Chief Goods Manager. On the formation of the Railway Executive in 1948 he returned to London as an Executive Officer of that body, being Chairman of the Terminals Committee. A Member of the Council of the Institute of Transport, and of the Council of the Institute of Materials Handling, Mr. Pickford was leader of a team of traders and transport interests which visited America in 1950, with special reference to freight handling. He was also a Member of the Winter Transport Conference and represented British Railways on the International Union of Railways and the International Container Bureau. In 1954 he was appointed Commercial Superintendent, Western Region, a position later re-designated Chief Commercial Manager. During his two years at Swansea Mr. Pickford acted as Chairman of the South Wales Road-Rail Committee and of the South Wales Traffic Committee (Iron & Steel Interests). He also was a Member of the Chamber of Commerce and the Swansea Rotary Club. On his transfer to Cardiff he became a Member of the Cardiff Chamber of Commerce, the Cardiff Rotary Club, and of the Cardiff Exchange Club. He was associated with the Industrial Association of Wales & Monmouthshire and the National Development Council. Mr. Pickford is a Director of a number of omnibus companies including the Birmingham & Midland Motor Omnibus Co. Ltd., the Bristol Omnibus Co. Ltd., the Southern & Western National Omnibus Companies Ltd., the Thames Valley Traction Co. Ltd., the Western Welsh Omnibus Co. Ltd., and City of Oxford Motor Services Limited. He is also an author of papers and reports on railway subjects.

Mr. A. C. B. Pickford
Appointed Assistant General Manager (Traffic), Western Region

Mr. R. E. Taylor, Chief of Transportation, Canadian Pacific Railway, who, as recorded in our December 6 issue, has retired, has served the C.P.R. for more than 45 years. Mr. Taylor has headed Canadian Pacific's transportation since December, 1946, when he moved to Montreal from Toronto, where he had been Superintendent of Transportation for the Eastern Region. Joining the company in 1912 he served first as Operator at Guelph Junction and London, Ontario, and later as Dispatcher and Relieving Chief Dispatcher on the Trenton and London divisions. He was appointed Chief Dispatcher at London in 1928. He gained further experience as Assistant Superintendent at London and, in 1934, became Inspector of Transportation for Eastern Lines. As a superintendent he saw service on the Trenton Division, Toronto (1940), the Schreiber Division (1941), the London Division (1942), the Portage Division at Winnipeg (1943) and the Medicine Hat Division (1945).

Mr. R. E. Taylor
Chief of Transportation, C.P.R., 1946-57

Mr. H. C. P. Cresswell, Chief Commissioner of Immigration & Colonisation, Canadian Pacific Railway, has retired. Mr. Cresswell, who was born in Melbourne, Australia, in 1892, was educated at Foyle College, Londonderry, Northern Ireland. Before going to Canada he served with the Lancashire & Yorkshire and London & North Western Railways. During the 1914-18 war he attained the rank of Lieutenant in the 26th Canadian Rifles. Mr. Cresswell joined the Canadian Pacific

Mr. A. H. Moncrieffe

Appointed Assistant to Commercial Officer (Sales), North Eastern Region

Mr. W. H. Smith

Appointed Rolling Stock Engineer, British Road Services

Mr. D. A. Crew

Appointed Traffic Manager of the United Counties Omnibus Co. Ltd.

Railway at Calgary in 1912 when the company's land settlement programme was at its height. He went to London in 1929 as Assistant European Colonisation Manager, was appointed European Colonisation Manager in 1933, and Chief Commissioner of Immigration & Colonisation in 1944. As President of the Montreal Branch of the Royal Empire Society at the time of the coronation of Queen Elizabeth, he was awarded the Coronation Medal in 1954.

Mr. A. H. Moncrieffe, who, as recorded in our December 13 issue, has been appointed Assistant to Commercial Officer (Sales), North Eastern Region, British Railways, began his railway service in 1922 at Liverpool with the former Cheshire Lines Committee. He subsequently gained experience at various stations and in departments of the Headquarters Office. During the war he was engaged on special duties in connection with rail depots damaged by enemy action. In 1949, following nationalisation, he was transferred to the London Midland Region as Chief Delivery Clerk, Canada Dock. Later the same year he was appointed Chief Claims Clerk, District Goods & Passenger Manager's Office, Sheffield, and in 1950 took up a similar position in the District Goods Manager's Office, Warrington. In 1952 he moved to the North Eastern Region to become Chief Claims Clerk, District Goods Manager's Office, Leeds, and, in 1954, was appointed Head of Claims Section, Chief Commercial Manager's Office, York. In 1956 he became Assistant (Claims), Chief Commercial Manager's Office, the position he now vacates.

Mr. C. F. Havord, Assistant Stores Superintendent, London Midland Region, British Railways, retired on December 31.

Mr. A. Forester Fielding has been appointed Assistant Divisional Operating Superintendent, Derby, London Midland Region, British Railways.

Mr. John Pollard, District Operating Superintendent, Stoke, London Midland Region, British Railways, has been appointed to the newly-formed position of District Traffic Superintendent, Stoke. He took up his new duties on January 1.

Mr. W. H. Smith, Divisional Engineer, North Western Division, British Road Services, who, as recorded in our December 6 issue, has been appointed Rolling Stock Engineer, Chief Engineer's Department, B.R.S. Headquarters, began his transport career with the Southport Corporation Transport Department in 1942 as a junior assistant in the Engineer's Office. In 1943 he gained an engineering cadetship diploma at Burnley Municipal Technical College. After two years of commissioned service with the Royal Electrical & Mechanical Engineers, he served a post graduate apprenticeship with Leyland Motors Limited, and in 1950 became a junior engineer with that organisation. Mr. Smith joined British Road Services in 1951 as a technical assistant in the Engineering Department at Headquarters. He was appointed Assistant Engineer (Rolling Stock) in 1953 and North Western Divisional Engineer in 1956. He is a Chartered Mechanical & Automobile Engineer.

The following appointments have been announced by the London Midland Region of British Railways:—

Mr. F. C. Williams to be Temporary District Goods Manager, Warrington.

Mr. A. R. Smith to be Temporary Assistant District Operating Superintendent, Nottingham.

Mr. B. W. Sabey to be Overseas Freight Agent, Leadenhall Street.

Mr. C. M. S. Lomax, Assistant to District Operating Superintendent, Hull, North Eastern Region, York, British Railways, has been appointed Assistant District Operating Superintendent, Wakefield. Mr. Lomax joined the former L.N.E.R. at Crews Hill in 1927 and subsequently gained station experience and served at Kings Cross. He became a traffic apprentice in 1933 and trained on the North Eastern Area of the system, in 1937 moving to the Divisional General Manager's Office at York and, the following year, to Leeds as Assistant to the Parcels Agent. Service followed as Assistant Yardmaster at Hull and Yardmaster & Locomotive Shedmaster at Percy Main. In 1947 he became Mineral Traffic Agent, Gascoine Wood, and, in 1955, Assistant to the District Operating Superintendent, Hull, the position he now leaves.

Mr. D. A. Crew, Assistant Traffic Manager of the United Counties Omnibus Co. Ltd., who, as recorded in our December 27 issue, has been appointed Traffic Manager of that company in succession to Mr. R. G. Howe, was Assistant District Superintendent with the London Passenger Transport Board from 1932 until 1942. After war service from 1942 until 1945 he returned to the L.P.T.B. and, in 1946, became Area Traffic Superintendent to the Eastern Counties Omnibus Co. Ltd. In 1948 he was appointed Assistant Traffic Manager of the Eastern National Omnibus Co. Ltd. and, in 1952, assumed his present position of Assistant Traffic Manager of United Counties Omnibus Co. Ltd.

Mr. I. S. Alford has been appointed Chief Representative, London Commercial Service (Passenger Travel), Western Region, British Railways. Mr. Alford began his career with the former London & South Western Railway and obtained station experience at Exeter, Plymouth, Salisbury, etc. After serving with the Royal Engineers in the 1914-18 war he was appointed to the staff of the London District (later re-designated London West Division), attached to the Passenger and Train Excursion sections. Transferred to the London Commercial Service organisation at its inception in 1948, he later became Assistant to the Chief Representative, the position he now leaves.

Mr. W. E. G. Hewings, LL.B., Secretary of the Executive Works Committee of London Transport, has been promoted to be Principal Executive Assistant. Mr. Hewings, who is 44, entered the service of the Underground Group of Companies in the Legal & Parliamentary Office in July, 1929. In 1955, after experience in the offices of the Executive and of the Architect, he became Personal Assistant to the Deputy Chairman. In 1957 he was appointed Secretary of the then newly-formed Executive Works Committee. From January to April, 1957, Mr. Hewings' services were seconded, through the Colonial Office, to the Singapore Government and he went with Mr. L. C. Hawkins to Singapore to assist in connection with the proposal to unify the road passenger transport services of Singapore. In 1939, he enlisted in the 84th London Transport (A.A.) Regiment

of the Royal Artillery (Territorial Army). He served throughout the war, latterly with R.E.M.E., and returned to the service of London Transport in November, 1945. Mr. Hewings qualified as a Bachelor of Laws of the University of London in 1948.

Mr. Wilfred Heywood, Railway Superintendent, Manchester Ship Canal, and Mr. Reuben Whittaker, Chief of Dock Police for the same copmpany, retired on December 31. Mr. Whittaker will be succeeded by Inspector Reginald Howard, who has been acting as his Deputy since 1950.

We regret to record the death, at the age of 73, of Mr. Robert Dunlop Brown, former Chief Engineer to the Manchester Ship Canal Company and a member of the Board of Survey set up by the British Transport Commission to investigate and report on Britain's inland waterways.

New Year Honours List

Dr. Ashley S Ward, President of Thos. W. Ward Limited, has been awarded a Knighthood in the New Year Honours List. Dr. Ward is also Chairman of the Park Gate Iron & Steel Co. Ltd., and Vice-Chairman of the Laycock Engineering Co. Ltd.

Mr. J. H. P. Hawtrey, Chief Civil Engineer, Crown Agents for Oversea Governments & Administrations, receives the C.B.E.

Mr. William Albert Ryan, O.St.J., of the Great Northern Railway Board of Ireland receives the M.B.E. for public services in Belfast and County Down. Mr. Ryan is in charge of the Compensation Section of the General Manager's Office in Belfast, where he deals with claims arising out of the closure last September, under the G.N.R. (Compensation to Employees) Regulations (N.I) 1957 (SR & O. No. 202). He also deals with public and press relations matters in the Traffic Manager's Office. Well-known in local government and hospital management circles in Northern Ireland (he serves on 32 committees) Mr. Ryan is a Member of Chapter of the Commandary of Ards (Order of St. John) and is also Public Relations Officer of the Order. He is an Area Commissioner of the St. John's Ambulance Brigade, and was responsible for organising this transport section a few years ago.

Mr. R. W. Hunt, District Inspector (Training), District Motive Power Superintendent's Office, Kings Cross, Eastern Region, British Railways, was awarded the B.E.M.

We regret to record the death in New Zealand on November 19, at the age of 80, of Mr. H. W. Moore, A.M.I.E.E., M.I.R.S.E., formerly Assistant Mechanical & Electrical Engineer, and Signal Engineer, Northern Division, Glasgow, of the London Midland & Scottish Railway. Mr. Moore began his railway career with the former Lancashire & Yorkshire Railway at Horwich and was subsequently employed as a draughtsman on traction, power, and lighting work. He was later transferred to the office of the Telegraph Superintendent where he took charge of the electrical workshops. He then became Electrical Assistant to the Chief Civil Engineer (Signal Section), Manchester, and, as a result of the 1922 amalgamation, Telegraph & Electrical Assistant, "B" Division, London & North Western Railway. In 1930 he was appointed Outdoor Assistant (Signals), L.M.S.R., Derby, and in 1934 he transferred to Euston in a similar capacity. In 1936 he moved to Scotland as Divisional Signal & Electrical Engineer (Scottish Division), Glasgow, L.M.S.R. In his new capacity he retained his position as Signal Engineer of the Northern Division, the signalling department continuing to come under his direct supervision. Mr. Moore was a Member of Council of the Institution of Railway Signal Engineers. He was also Lecturer in Electrical Engineering, Mathematics & Applied Mechanics for a number of years at the Horwich Railway Mechanics Institute.

Mr. G. Ditchfield and Mr. A. R. Dowson have been appointed to the board of Mather & Platt Limited.

Mr. H. G. Herrington, Managing Director of High Duty Alloys Limited, has been reappointed Chairman of the Aluminium Industry Council.

Mr. Anthony Neville, at present in the International Department of the British Iron & Steel Federation, will join the Head Wrightson Export Co. Ltd. on January 1 as Manager—Europe.

Mr. H. Evan Price, local director at Fort Dunlop, Dunlop Rubber Co. Ltd., has become Chief Commander of Birmingham's Special Constabulary in succession to Mr. Allen Furse, whose deputy he has been.

Mr. A. H. Hird, a director of Vickers-Armstrongs Limited and Metropolitan-Cammell Carriage & Wagon Co. Ltd. and Chairman of several wholly-owned subsidiaries of Vickers Limited, has been appointed to the board of Vickers Limited.

Mr. G. H. Buchanan, for the past 14 years representative in Scotland for Craven Bros. (Manchester) Ltd., has retired. He will be succeeded by Mr. H. Probert, who began his service with the company in 1938.

Mr. K. Druce has been appointed Manager of the Bristol office of the English Electric Co. Ltd. succeeding Mr. T. Robinson, who retired on December 31. Mr. H. Granville-Brown has taken charge of the Southampton office of the company, succeeding Mr. I. Mackintosh, who has also retired.

We regret to record the death on January 4, at the age of 70, of Mr. H. B. Blackstone, a member of the staff of Ranald J. Harvey, Consulting Engineers. Mr. Blackstone, who was well known in Westminster, was at one time with Sir Alexander Rendel & Partners, and later joined Sir Duncan Eilliot, whose practice was taken over by Mr. Ranald J. Harvey. On the occasion of his 70th birthday in September last year Mr. Blackstone was presented with a cocktail cabinet.

We regret to record the death on January 2, resulting from a traffic accident, of Mr. Richard Emrys Thomas, M.I.C.E., M.Inst.T. Mr. Thomas, who at the time of his death was a member of the staff of Ranald J. Harvey & Partners, Consulting Engineers, was formerly Chief Inspecting Engineer in London to the Egyptian Government. He completed his technical education and obtained his engineering degree in 1902 when he was articled to the late Mr. J. W. Jacomb-Hood, then Chief Engineer of the London & South Western Railway. After completion of his training, Mr. Thomas remained a year on Mr. Jacomb-Hood's staff and, in 1906, accepted a position as an Engineer in the New Works & Construction Department of the Egyptian State Railways. In 1914 he became Divisional Engineer on open lines and thereafter, successively, Assistant to the Chief Engineer, Deputy Chief Engineer, and, in 1930, Deputy General Manager of Egyptian State Railways, Telegraphs & Telephones. He left Egypt in 1937 to become Chief Inspecting Engineer in London to the Egyptian Government and, from 1939 to his retirement from that position in 1945, was responsible for the inspection and shipment of engineering plant, railway material, and military equipment to a value of some £20 million. He joined the firm of Ranald J. Harvey & Partners in 1953. Mr. Thomas was 76.

Mr. G. R. Curry has been appointed Director of the Locomotive & Allied Manufacturers' Association. Mr. Curry was formerly Secretary of the Association.

Mr. R. Arbuthnott, M.B.E., has been nominated by the Council of the Institution of Locomotive Engineers for the Presidency in the 1958-59 session, with Messrs. D. C. Brown and S. B. Warder as new Vice-Presidents. Members nominated to the Council are: Messrs. H. H. C. Barton, M. G. Burrows, G. Collingwood, A. W. J. Dymond, A. H. Emerson, R. Harvey, and E. D. Trask.

We regret to record the death on January 4, at the age of 75, of Viscount Waverley, O.M. Offices held during his career include: Joint Under-Secretary to the Lord Lieutenant of Ireland, 1920-22; Permanent Under-Secretary of State at the Home Office, 1922-32; Governor of Bengal, 1932-37; Home Secretary & Minister of Home Security, 1939-40; Lord President of the Council, 1940-43; Chancellor of the Exchequer, 1943-45; and Chairman of the Port of London Authority since 1946. He was a Director of the Southern Railway Company and of the Canadian Pacific Railway Company.

Mr. H. Desmond Carter has been appointed Chairman of Crossley Brothers Limited in addition to his office as Managing Director. He succeeds the late Sir Kenneth I. Crossley, Bt., whose death occurred on November 22 in his 81st year after 48 years of service as Chairman of the company.

Mr. W. T. Vizer-Harmer, Director & Commercial Manager of Steel, Peech & Tozer, has been appointed Commercial Director of that branch of the United steel Companies Limited as from January 1. He will be succeeded as Commercial Manager by Mr. J. Mackenzie-Mair, who will be responsible for all commercial and sales matters.

Mr. N. R. Law, Manager, Nottingham Branch, Midland Region, Philips Electrical Limited, recently celebrated the completion of 25 years of service with the company. The occasion was marked by a luncheon and a presentation by Mr. G. Hofman, Managing Director of Philips Electrical Limited, on behalf of the company, and others on behalf of staff colleagues.

We regret to record the death on December 28 of Mr. H. Matthews, Joint Managing Director of Crofts (Engineers) Limited.

Sir Ronald Thornbury Garrett has been appointed Chairman of the Central Transport Consultative Committee for Great Britain for the next three years. Sir Ronald Garrett, is 69. He is a Member of the Council of the Chamber of Shipping and of the Institution of Naval Architects and is an Underwriting Member of Lloyds. He has previously served as Chairman of the National Dock Labour Corporation and of the London General Shipowners' Society and as a member of the Port of London Authority.

NEW EQUIPMENT AND PROCESSES

Forward Reach Fork Lift Truck

A FORK lift truck has been developed which has the properties of an ordinary fork stacker, with the ability to "reach" forward to pick up a load and then withdraw to within the wheelbase.

The truck has a lifting capacity of 2,200 lb. at 25-in. centres, and the lifting arrangement of the forks makes possible the lifting and setting down of pallets and containers in front of the chassis.

Other features of the machine include the handling of 39 in. × 30 in. pallets within a gangway only 5 ft. 10 in. wide; the stacking arrangements permit access for loading in three directions from the platform of a lorry; and safety when travelling ensured by the load being within the wheelbase. The stacking mechanism allows a travel of 24 in. in either direction of the loaded fork. It is pointed out that the mast does not move.

The truck has a built-in overload of 50 per cent. Double wheels are fitted on the straddle legs for greater stability and longer life. It has a four-point suspension with the two rear turntables interlocked to give a 180-deg. turn. An infinitely variable speed control is mounted on the steering column, a special device ensuring that lowest speed must always be engaged first.

Lifts up to 18 ft. are available with a three-in-one telescopic mast and full free lift. All mast channels are constructed of rolled steel sections.

The unit is at present being manufactured in Germany, and sold throughout the British Commonwealth by G. Hunter (London) Limited, from whom further details may be obtained.

Diesel-Powered Mobile Crane

THE Jones KL 10-6 mobile crane has been introduced to help meet the increasing demand for a 10-ton capacity machine. It is a diesel-powered, fully-slewing machine, employing the manufacturer's type of direct mechanical drive.

Power from the Perkins engine is transmitted through a three-speed gearbox and triplex roller chain drive and thence, by means of separate dry-plate clutches, to the four crane motions; these can be operated independently or in combination.

The standard mobile chassis is mounted on pneumatic-tyred restrictor wheels, these wheels affording protection to the tyre walls, preventing undue tyre deflection, and obviating all risk of tipping in the event of a blow-out under the load. Drive to the wheels is through a four-wheel differential which makes wheel spin impossible and gives the crane good, slow performance on soft ground while preserving the speed characteristics of the wheeled chassis when on level going.

The steering is progressively power-assisted and automatically corrected so that the action is normal whatever the position of the superstructure. In the standard model this steering is by two wheels only, but for extra-manœuvrability a four-wheel steering version can be supplied.

One feature of the crane is the specially designed lowering mechanism, allowing accurate and smooth control by a governor mechanism or by an auxiliary power-lowering drive from the crane engine.

The standard jib is of the sectional, lattice-construction strut design, of 30-ft. length, but special jibs can be supplied to suit particular operations. An instance of this was provided for British Railways, which required a machine for container handling. To meet this efficiently, a special jib and various other modifications were incorporated to give both the clearance needed to handle the bulky loads and an increased rating.

Alternative types of chassis are also available. These include a crane carrier truck chassis, giving road speeds up to 30 m.p.h., and both shunting and non-shunting types of rail chassis. Of these, the former has a shunting capacity of 125 ton.

The comfort of the driver and driver fatigue have been considered in the lay-out of the well-fitted, weatherproof cab. It is claimed to have excellent all-round visibility. The controls are positioned to minimise fatigue and, although light in operation, enable the driver to "feel" his load.

Further details of the Jones KL 10-6, including price and delivery, may be obtained from the manufacturer, K & L Steelfounders & Engineers Limited, Letchworth, Herts.

High-Temperature Anti-Corrosion Coating

A HIGH-TEMPERATURE coating produced for the protection from rust of steel chimney stacks, furnace doors and other steelwork subjected to high operational temperatures, is now available under the trade name Glostack.

The product is a metal coating supplied in liquid form, and is applied by normal paint techniques. It is simple to use, as it does not need the addition of any hardener, accelerator or curing agent. The surface to be protected is suitably prepared, and then the liquid is brushed on to the cool surface. The coated article may be put back into service as soon as the coating is touch dry, normally about 2 hr.

It is stated that the Glostack coating will stand up to temperatures over 800° F. for long periods. In addition, it has the property of being stable and unharmed by a wide range of temperatures from normal atmospheric temperatures to the upper limit quoted above. A stack normally has a temperature range varying between hundreds of degrees; with some heat-resisting paints it is found that the coating has failed on stack surfaces which experience lower temperatures, although possessing good resistance to the higher temperatures.

The coating has good resistance to weathering, and will also withstand attack by chemical fumes of the kinds normally found in the vicinity of gas-works, electricity power stations, chemical works, and so on.

Delivery of the product can be made from stock: it is supplied in 6- and 12-lb. cans. Glostack is manufactured by Corrosion Limited, Southampton.

Waste Oil-Fired Warm Air Unit

AN air space heater, the Scientaire, which may be used for any industrial application such as the warming of workshops, stores and offices, operates on waste oil. When the latter is not

available it will work quite satisfactorily on 35-sec. gas oil.

A pressure reducing valve controls the compressed air flow at a uniform pressure, so that oil is fed at a constant rate despite variations of pressure from the compressor. An automatic safety valve closes when pressure falls below 8 lb. per sq. in. and remains closed even when pressure is restored so that oil cannot be sprayed into the fire tray until the safety valve has been re-set. Secondary air is introduced by a smoke control valve to ensure maximum burning efficiency.

The all-welded heat exchanger is constructed from ¼-in. steel plate. A safety feature ensures that, in the event of a leak after a long period of service, it is impossible for the products of combustion to enter the warm air stream. Air circulation is by a forward-bladed double-inlet centrifugal fan driven through vee-ropes by a ½-h.p. motor wound for any standard three-phase a.c. supply. During the summer this can be used as a ventilation unit. A single-phase motor can be supplied where required. The two air filters, of the glass fibre throwaway pattern, are easily replaced when necessary.

Air spaces of up to 40,000 cu. ft. can be warmed by one unit. The rated output using waste sump oil is 120,000 B.T.U. per hour.

The dimensions are 2 ft. wide × 2 ft. 6 in. deep, excluding oil drum projection; overall height is 6 ft. 7 in. Arrangements can be made to supply a suitable compressor driven by a ½-h.p. motor complete with receiver and safety valve, if required.

The price of the heater is £165 ex-works; delivery at present is two to three weeks. The manufacturer is Scientaire Limited, 2, Blenheim Terrace, Leeds, 2.

Bearing Pullers

A RANGE of pullers for removing pulley gear, flywheels, bearings, and so on, is available in the following four basic sizes, with either two or three grips: —5-ton., 6-in. capacity; 10-ton., 8-in. 20-ton., 12-in.; and 20-ton, 14-in. The maximum spread is indicated by the sizes quoted. The three-grip design is illustrated.

Alloy steel drop forgings are used in all parts of the tools except the forcing screws and bolts which are made from high tensile steel. Because no castings are used in the manufacture of the new pullers they are claimed to be long-lasting, even under adverse conditions and on exceptionally heavy duty.

The weights of the various types and sizes of puller range from 1 lb. 14 oz. for the smallest twin-grip tool to the 18 lb. 4 oz. for the largest triple-grip puller.

The maximum reach of the smallest pulling arm is 3¼ in. and on the largest, 15 in. The dimensions of the forcing screws in each size of puller is the same for both twin- or triple-grip designs. The 6-in. capacity tool has a forcing screw 6 in. long and ½ in. dia. That on the 8-in. capacity puller is 9 in. long and ⅝ in. dia., and both the 12- and 14-in. capacity pullers have screws 12 in. long and 1 in. dia.

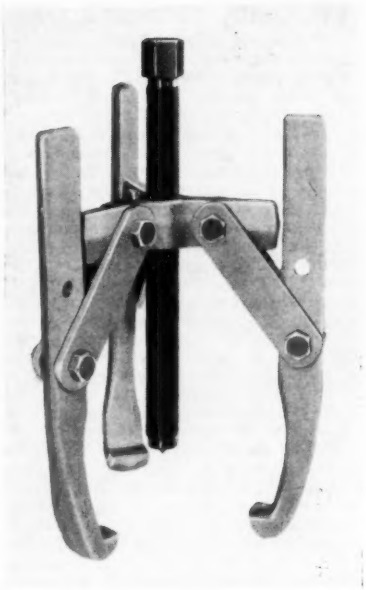
The pullers are manufactured by the Martindale Electric Co. Ltd., Westmorland Road, London, N.W.9.

Powered Winch

THE Hathaway powered winch is portable and weighs 190 lb. It is suitable for use in workshops, on construction sites, and so on.

The winch is powered by a Villiers Mk.15 air-cooled four-stroke o.h.v. engine. This incorporates two methods of starting, by pulley and rope, or a kick starter. The equipment can be staked into soft ground, bolting by U-bolts in a fixed position or for chaining back to a firm object.

The winch has a tractive capacity of

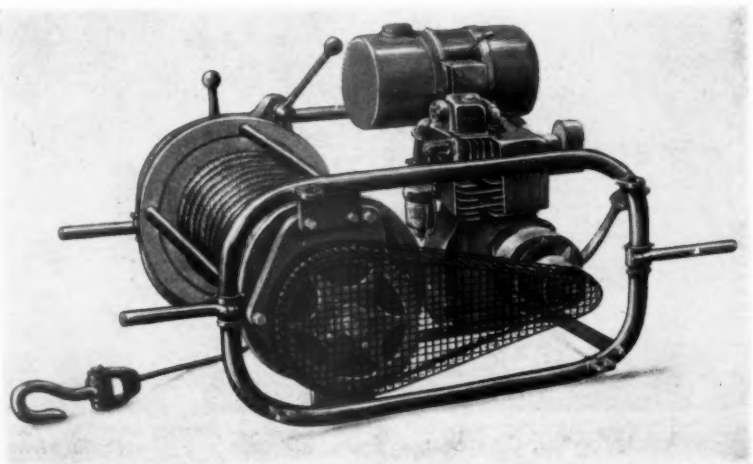


some 1,300 lb., at around 1 ft. per sec., which can be doubled by use of a snatch block. The speed can be increased with a corresponding drop in load to 435 lb. at 3 ft. per sec. The drive from the engine is transmitted by means of an automatic centrifugal clutch, through a roller chain drive, to an epicyclic gearbox inside the winch drum. The clutch takes up the drive at an engine speed of roughly 1,500 r.p.m.

With the drum disengaged the cable can be wound quickly for use. The drum is engaged by a lever control; when engaged, the speed of pull is adjusted simply by opening or closing the throttle, and no other control is necessary. To release the cable, the brake is applied and the drum disengaged. The speed of release is then controlled by the brake.

The unit has four folding handles, and is supplied complete with 300 ft. of ¼-in. dia. hemp-cored soft-steel cable, hook, and ground stakes. It measures 30 in. long, 22 in. wide, and 20 in. high.

The price is £217 10s. Details, including delivery, can be obtained from the manufacturer, L. Hathaway Limited, Oswestry, Shropshire.



New Traffic Manager's Office, Cambridge

Great Eastern House, Cambridge, the new office of Mr. W. A. G. Suddaby, Traffic Manager, Cambridge, on the Great Eastern Line of British Railways, Eastern Region, was opened on December 18, 1957, by Sir Hamilton Kerr, M.P. for Cambridge City, as recorded in our December 27 issue. Mr. Suddaby assumed his duties on December 30. In accordance with the principles of the new Eastern Region traffic organisation, the building houses the District Operating Superintendent, the District Commercial Officer, and the District Motive Power Superintendent, who report to the Traffic Manager. It will in the near future accommodate the Cambridge District Control Office, which will be moved from its existing premises a short distance away.

The new structure is at the junction of Station Road and Tenison Road, near the railway station. The Cambridge Planning Authority has welcomed the improvement which it gives to an important approach to the town and the building has also gained the approval of the Royal Fine Arts Commission. It replaces a number of obsolete and unsightly huts in the vicinity of the station.

The three upper floors and part of the ground floor of the four-storey building are to be used as offices, and the remainder of the ground floor is occupied by the entrance hall and enquiry desk, and accommodation for the Cambridge Railway Social Club. The building is set back from the road, and the area fronting it has been planted with grass and shrubs. There is a car park at the front.

The ground floor has a reinforced concrete frame, and the upper floors have been constructed from pre-cast prestressed concrete components, using the Intergrid system. The external walls are finished with grey-brown facing bricks at ground floor level and with contrasting grey granite-faced slabs above.

Movable Partition

To allow for changes in accommodation requirements in the future, the offices are separated from each other by partitions which can be removed and resited elsewhere without structural alterations. The interior of the building is colourful and easy to keep clean. The furniture, designed by the Eastern Region Architect, is in the contemporary style which has been adopted throughout the Eastern Region for new office furniture.

The use of pre-fabricated materials wherever possible, with careful programming of the work, enabled the whole job to be carried out from site preparation to furnishing between February and November, 1957, in good time for the start of the new traffic organisation on December 30.

The building was designed by Mr. H. H. Powell, Architect, Eastern Region, under the general direction of Mr. A. K. Terris, Regional Chief Civil Engineer, Eastern Region. The general contractor was Gilbert-Ash Limited.

British Railways Motive Power Policy

In a recent letter to *The Financial Times*, Mr. W. Wakefield Adam advocated electrification of British Railways as a means of lowering costs. It would, he stated, reduce the annual operating costs of the railways when compared with steam traction by 50 per cent a year and by at least 60 per cent when compared with diesel traction.

Electric locomotives of the same weight as either steam or diesel locomotives were over four times more powerful so that by electrification all of the heavy goods and mineral traffic could be absorbed from road to rail transport. Fares and freight charges could be reduced by at least 45 per cent, so undercutting considerably road transport charges, reducing the cost of living and greatly assisting British home and export trade. Also, with more intensive freight traffic between 6 p.m. and 6 a.m. the load factor could be reduced, thus reducing the cost of producing electricity from B.E.A. power stations.

Mr. J. H. Brebner, Public Relations Adviser, British Transport Commission, stated in a letter published in reply, that it was the intention ultimately to electrify all railway lines in Britain where economic justification could be found.

The rate at which electrification could be carried out, however, was limited by the substantial engineering work involved on tracks, structures, signalling, and telecommunications. The changeover from steam to diesel traction, on the other hand, generally did not involve important civil engineering and signalling works; it could be effected much more readily, and offered many of the advantages of electricity.

"The modernisation plan," he concluded, "thus does not seek to choose between the two forms of traction, but rather to combine them to the best advantage. Moreover, it specifically provides (paragraph 38) that 'if it should be subsequently decided that it is practicable to electrify the section upon which diesel traction has already been introduced, the diesel units would be used elsewhere'."

Ticket Printing Machine at Durham

A further step in the modernisation of the North Eastern Region of British Railways is shortly to be taken in the booking office at Durham Station. A new A.E.G. Multiprinter machine, for the printing and issuing of tickets, has been delivered to Durham and will shortly be installed. The first of its kind to be introduced in the North Eastern Region, the machine has been supplied by Westinghouse Garrard Ticket Machines Limited, of Chippenham, Wilts.

It is capable of printing and issuing up to 630 different railway tickets: it also makes a record of each ticket issued for accountancy and statistical record purposes.

The machine consists of a rectangular cabinet, approximately 3 ft. 6 in. wide, 2 ft. 7 in. high and 1 ft. 9 in. deep, in which the printing plates and statistical counters are housed. Mounted above the cabinet there is an internally-illuminated glass-fronted index of destinations arranged in echelon formation, and for each destination there are translucent coloured plastic buttons to select the particular type of ticket required. The printing carriage, which moves along the cabinet, encloses a totaliser and record strip. Containers containing various coloured plain cards, the same size as normal railway tickets, are mounted at the front. The different colours are used for the different classes and types of tickets in general use.

A cursor moves across the index in

Station Road frontage, Great Eastern House, Cambridge

Traffic Manager's office, showing movable partitions

response to the movement of the printing carriage and when this rests on the destination indicator, the carriage is immediately above the appropriate plate and ready to print the ticket indicated. The operator then selects a plain card of the colour required and inserts this into a slot in the carriage. This is re-delivered to the operator immediately as a printed ticket complete with date and progressive number. Simultaneously, the machine records the fare, the printing plate number and the progressive number of the ticket. It also adds the amount of fare to the debit totaliser and advances a statistical counter exclusive to the ticket issued. Accountancy and the maintenance of statistical records will be considerably simplified.

All the vital parts of the machine are inaccessible to unauthorised persons and the utmost security is assured. The new machine will make possible the abolition of some 630 series of pre-printed tickets which at present have to be held in stock at Durham. The machine is electrically operated, but in the event of power failure can be worked by hand.

The choice of this particular type of machine has been made after exhaustive examination by the railways and its introduction at Durham is in the nature of an experiment, the results of which will be studied very carefully. The Multiprinter was described in our issue of January 6, 1956.

STEEL COMPANY OF WALES LIMITED RESULTS.—The trading profits of the Steel Company of Wales Limited for the year ended September 28, 1957, were £18,980,450 compared with £14,228,057 for 1955-56. The final dividend is 3½ per cent, making 6 per cent for the year. The net profit, after charges for depreciation, tax, and interest, was £4,656,664 (£4,000,397).

Questions in Parliament

Proposed Victoria Tube

Mr. A. Albu (Edmonton—Lab.) asked the Minister of Transport & Civil Aviation on December 18 when it was proposed to start the construction of the new Victoria tube linking North-East London with Victoria and South-West London, Route C.

Mr. G. R. H. Nugent, Parliamentary Secretary: Because the project raises difficult financial problems and the capital which is available to the B.T.C. can be more advantageously used for their modernisation programme. No decision has yet been taken.

Mr. Albu: Does not the Minister agree with the recent remarks of the Chairman of the Commission that the only way to solve the traffic problem of London is to construct this new tube, and would it not provide a very considerable economic saving in the City of London and the Greater London area as a whole if this tube were constructed? Further, is it the fact that these tubes cannot be constructed without capital subsidy from the Government?

Mr. Nugent: We are making large capital sums available to the Commission to proceed with its modernisation. This scheme would cost an additional £55½ million, and it is computed to make a loss in any event. Therefore, it has to take its turn with other matters which may have greater priority.

Mr. Ernest Davies (Enfield E.—Lab.): Will the Minister look at this with a little more imagination? Is it not a fact that it would bring considerably more relief to the centre of London than the construction of new roads, and would it not, therefore, be quite reasonable to consider financing this scheme in the same way as roads are financed and built, then handing the tube over to London Transport Executive to operate?

Mr. Nugent: I agree that it would assist in moving passengers about in London, but we must look at it in the context of what would be the greater benefit which we should derive from either this scheme or one of the other railway modernisation schemes all about the country.

Railway Workshops at Leeds

Mr. Denis W. Healey (Leeds E.—Lab.) asked the Minister of Transport & Civil Aviation on December 18 when he expected the repairs to the railway workshops at Neville Hill, Leeds, to be completed.

Mr. Harold Watkinson: This is entirely a matter within the responsibility of the B.T.C.

Mr. Healey: Is the Minister aware that the working conditions in these workshops are absolutely intolerable? Plans for repairing them were first drawn up in 1947. Will he use his own powers to try to get the B.T.C. to advance a decision in regard to this matter?

Mr. Watkinson: I think that the right way of dealing with this matter is either for the Hon. Member to make his own representations to the Commission or for him to draw the matter to my attention—which he has done—and for me to see what I can do to draw it to the Commission attention.

Mr. David Jones (The Hartlepools—Lab.): Is this what the Minister meant when he told the T.U.C. on July 9 that the introduction of a Bill to implement the Gowers Report was delayed by the B.T.C.?

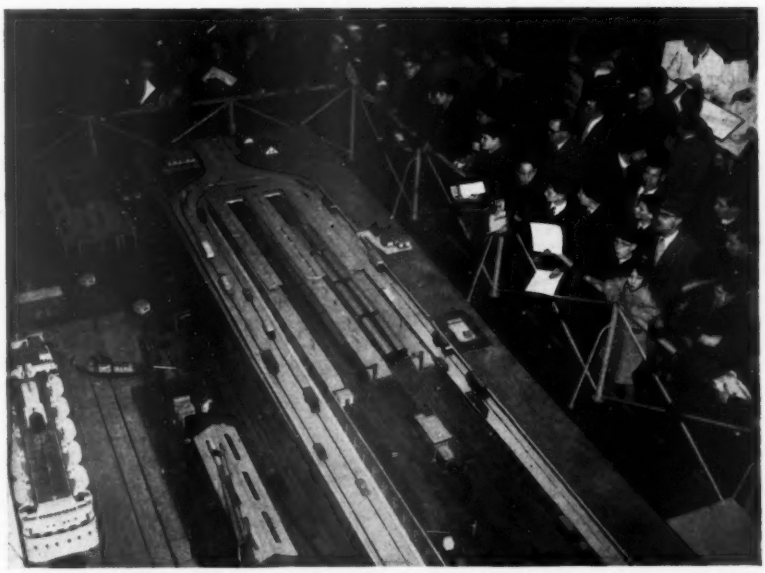
Mr. Watkinson: That has nothing to do with the case at all. The Commission is spending very large sums of money in improving amenities for its workers.

Transport Wages and Productivity

Mr. T. L. Iremonger (Ilford N.—C.) asked the Minister of Transport & Civil Aviation on December 18 in view of the inflationary effect, in certain circumstances, of wage increases in the nationalised transport industry, if he would consider the

National Schoolboys' Own Exhibition

Sir Cecil Weir, Member of the British Transport Commission, opening the exhibition



Part of the B.T.C., display, showing a working model of British Railways trains, London Transport trains and buses, British Transport docks and waterways, and British Road Services lorries

desirability of introducing legislation to make it ultra vires for the B.T.C. to make wage increases which are not matched by national productivity, and to assign a specific function to the Council on Prices, Productivity, & Incomes in assisting the Commission to shape its wages policy in the national interest.

Mr. Harold Watkinson, in a written reply: I have nothing to add to the written answer which the Parliamentary Secretary to the Ministry of Power made to a similar question on November 25.

The written answer given then by Mr. D. Renton was: The Government does not propose to interfere with the normal procedure of wage negotiations in the nationalised industries. Questions regarding the functions of the Council on Prices, Productivity, & Incomes should be addressed to the Chancellor.

Staff and Labour Matters

Railway Wage Claims

All three railway trade unions have now submitted their claims for improved rates of pay and a reduced working week to the next stage of the negotiating machinery, the Railway Staff National Council. A meeting of this body is to take place on January 14.

Redundancy in the Engineering Industries

At its normal monthly meeting on January 9, the executive committee of the Confederation of Shipbuilding & Engineering Unions discussed the general question of policy in relation to redundancy. Since the settlement was reached in the motor car industry, some local agreements have been made, most of them with individual firms; it is understood that the Confederation has been making a survey of such agreements with a view to formulating a concerted policy.

PERMALI LIMITED CHANGE OF ADDRESS.—The London office of Permali Limited has moved to 39, Victoria Street, S.W.1, and has also become the London office for the associated companies of Hordern Richmond Limited, and Hydulignum-Jabroc (Tools) Limited. The telephone number, Abbey 6494, remains unchanged.

DAMAGES CLAIM BY UNION AGAINST S.N.C.F.—A Paris court recently dismissed an action for frs. 5,000,000 damages (£4,230) brought by the C.G.T. (Confédération Générale du Travail) railwaymen's union against the French State Railways Company because of what the union claims were wrongful sanctions taken by the company against some of its members after the "creeping" railway strikes in September, 1955. Counsel for the C.G.T. argued that the C.G.T. had been discriminated against, because only its members had been punished. Counsel for the S.N.C.F. pointed out that the real reason for the sanctions had been that the C.G.T. left its members to choose the time and duration of their strikes, which was not in accordance with recognised strike procedure. The court agreed with this point. The S.N.C.F., it held, "provides a public service whose functioning is essential to the economic life of the country." An absolute right to strike could not be recognised in the case of its employees. The C.G.T., with its intermittent strikes, had tried to bring about not a concerted and continuous stoppage but the disorganisation of traffic. The case is to go to appeal.

Contracts and Tenders

New ships for the British Transport Commission

The British Transport Commission has announced that contracts valued at over £3,000,000 have been placed for the construction of four ships—two passenger and two cargo vessels—for the Channel Islands service operated by the Southern Region of British Railways. These ships will replace five smaller and outmoded vessels at present in service. The two passenger ships will be built by J. Samuel White & Co. Ltd., of Cowes, Isle of Wight; the two cargo vessels by Brooke Marine, Limited, of Lowestoft.

The New South Wales Government Railways has placed a repeat order for 30 1,800-h.p. diesel-electric locomotives with A. E. Goodwin Limited. They are similar to the 10 "44" class units of Goodwin-Alco design ordered early in 1957, and are intended primarily for the North Coast line and later, after completion of gauge conversion, for the Sydney-Melbourne service. The cost of the order is reported to be £A3,000,000, the largest yet placed with an Australian builder.

The British Transport Commission has placed an order with Seawork Limited, London, for the construction of four twin-screw diesel tugs for service at the port of Hartlepools in replacement of five existing steam craft. The new vessels will be equipped with two main diesel engines of 600 b.h.p. each, and will be fitted with twin rudders. They will be 101 ft. 6 in. in overall length, and will have a moulded breadth of 25 ft. 6 in., and a moulded depth of 11 ft. 9 in.

The British Transport Commission, South Wales Docks, has placed the following contract:—

Penarth Pontoon Slipway & Shiprepairing Co. Ltd.: general reconditioning of steam hopper barge, *G.W.R. No. 2.*

British Railways, North Eastern Region, have placed the following contracts:—

A. Herbert Limited, Coventry: one stay bolt lathe, Darlington Locomotive Works

Ridghouse Limited, Aycliffe, nr. Darlington: steelwork for water gantries, Thornaby Motive Power Depot

Wm. Birch & Sons Ltd., York: additions to basement for automatic telephone exchange, York Headquarters Offices.

The Special Register Information Service, Export Services Branch, Board of Trade, has received calls for tenders as follow:—

From India:

20,080 wheelsets, complete, 16-ton axle for carriage underframe and wagon stock, broad gauge, 5 ft. 6 in.

156 wheelsets, complete, 16-ton axle load, suitable for roller bearing axleboxes, broad gauge, 5 ft. 6 in.

9,392 wheelsets, complete, 20-ton axle for wagon stock, suitable for roller bearing axleboxes, broad gauge, 5 ft. 6 in.

760 wheelsets, complete, 22½-ton axle for wagon stock, broad gauge, 5 ft. 6in.

1,341 wheelsets, complete, 12-ton axle for wagon stock, metre gauge, 3 ft. 3⅜ in.

2 wheelsets, complete, 12-ton axle for wagon stock, suitable for roller bearing axleboxes, metre gauge, 3 ft. 3⅜ in.

4,015 wheelsets, complete, 10-ton axle for bogie coaching underframes, metre gauge, 3 ft. 3⅜ in.

266 wheelsets, complete, 6-ton axle for bogie coaching underframes, narrow gauge, 2 ft. 6 in.

688 wheelsets, complete, 8-ton axle for wagon stock, narrow gauge, 2 ft. 6 in.

2 diesel locomotives for Vizagapatnam Port, narrow gauge, 2 ft. 6 in.

The issuing authority is the Government of India. The tender No. is Global Procurement Programme No. G.P.14 for 1958-59. Bids should be sent to the Director, Railway Stores, Railway Board, State Entry Road, New Delhi. The closing date for wheelsets is February 8, 1958, and for diesel locomotives, March 8, 1958. The Board of Trade reference is ESB/31355/57.

From South Africa:

2,100 automatic couplers, "S" type, complete, but without coupling pin, 8 in. × 6 in. cast steel, side pull, bottom operated, to S.A.R. drawing CME.68/10709-478/A and specification CME.19/1955.

1,270 automatic couplers, "T" type, complete, but without coupling pin, to drawing No. CME.68/10714-478B.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. H.6903: Automatic Couplers," should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is January 17, 1958. The Board of Trade reference is ESB/30883/57.

Further details regarding the above tenders, together with photo-copies of tender documents, can be obtained from the Branch (Lacon House, Theobalds Road, W.C.1).

In our issue of November 29, 1957, we reported that an order had been placed with the Soc. Alsthom for 35 single-phase 50-cycle electric locomotives for the railways of the U.S.S.R. The contract has actually been placed with a French group including Alsthom, the other members of which are: the Société des Forges et Ateliers du Creusot, Usines Schneider, the Forges et Ateliers de Constructions Electriques de Jeumont, and the Matériel Electrique S-W.

JOSEPH LUCAS HIGHER PROFIT.—A 3d. per £1 ordinary share capital distribution is being made by Joseph Lucas (Industries) Limited in addition to a 5 per cent final dividend for the year to July 31, 1957, which maintains a 7½ per cent dividend for the year. The capital distribution is from the sale of investments in industrial companies not in the group. The consolidated trading surplus, after depreciation provision of £1,552,373 (£1,268,623) and placing £750,000 (£625,000) to buildings, plant, and equipment replacement reserve, was £5,881,941 (£5,330,204). Tax took £4,227,599 (£3,848,730), leaving a net profit of £1,668,275 (£1,519,722).

Notes and News

Diesel Trains on Darlington - Penrith Branch.—Diesel trains seating 12 first and 106 second class passengers are now working all passenger services between Darlington and Penrith, British Railways, North Eastern Region. The steam passenger trains were withdrawn on January 6.

Increase in S.N.C.F. Passenger Fares.—French National Railways passenger fares were increased from January 6. The new basic rates are 6 fr. 80 a km. (against 6 fr. 25) second class, and 10 fr. 50 (8 fr. 75) first class. There has also been an increase in the supplements for certain high-speed trains, varying between 7 and 20 per cent. Passenger baggage rates have been raised by 10·5 per cent.

Institute of Transport.—Mr. C. P. Hopkins, General Manager, Southern Region, British Railways, will be the speaker at the meeting of the Institute of Transport arranged for 5.45 p.m. on Monday, January 13, at the Jarvis Hall (R.I.B.A.), 66, Portland Place, London, W.1, when he will present for discussion a paper on "Railway freight traffic operation in the light of railway modernisation." The meeting will be open to visitors without ticket.

British Waterways at the National Boat Show.—The British Waterways stand at the National Boat Show being held at Olympia, London, from January 1 to 11, features the varied facilities for pleasure cruising on canals and inland waterways of Britain. Photographic displays showing three designs of vessels that form British boating activities generally and also the Waterways growing cruising fleet are used; large coloured maps indicating the choice of routes which are available for holiday makers are also displayed.

East Yorkshire Motor Services.—At the annual general meeting of East Yorkshire Motor Services Limited on December 18, Mr. J. S. Wills, the chairman, stated that he regretted he had to report on a year in which the company had earned practically no profit. It was the first occasion on which the directors had been unable to recommend the payment of a final dividend, and had it been possible to foretell future events it was likely that the interim dividend would not have been paid. The financial results were the result, mainly, of declining traffic; increased operating costs particularly wages; long procedural delays in matching higher fares to higher costs, and the strike in July. The company's first concern now must be to restore its finances. No system of unremunerative rural services, no substantial capital project, no lasting security of employment, could be sustained on the footing of a net return of £3,550 for the year, a mere ½ per cent, on a capital of £700,000.

Withdrawal of Merthyr - Abergavenny Passenger Service.—The passenger train service between Merthyr High Street and Abergavenny Junction, Western Region, was withdrawn on January 6, 1958. The following stations and halts were closed:—Govilon, Gilwern Halt, Clydach Halt, Gelli Felen Halt, Beaufort, Trevil Halt, Rhymney Bridge, Dowlais High Street, and Pantysgallog Halt Low Level. The areas previously covered by these stations are served by road passenger services. Brynmawr and Nantybwch continue to be served by passenger trains from Newport High Street; and Pontsarn Halt, Cefn Coed, and Heolgerrig Halt by the Merthyr-Pontsticill Junction services.

C.P.R. Order for New Liner.—The London office of Permali Limited has signed a contract with Vickers-Armstrongs Limited for a new passenger liner to be built at Naval Yard, Walker-on-Tyne, with machinery constructed at Barrow-in-Furness.

Diesel Train Trial Runs Over Glasgow-Ayr-Girvan Line.—In preparation for the introduction at a later date of diesel trains in the Scottish Region between Glasgow St. Enoch, Paisley, Ayr, and Girvan, trial runs without passengers will be made during the next few weeks over this route with a six-coach diesel train of the intercity type which has been running during the past year on the Glasgow-Edinburgh service.

Collision on Northern Railway of India.—An express from Delhi to Pathankot was involved in a head-on collision early on January 1, with a stopping train at Mohri Station, six miles south of Ambala and 117 miles north of Delhi on the Northern Railway. Thirty-two persons are known to have been killed and over 80 injured. There was a thick mist at the time. Later, fog was reported to be hampering rescue operations. The Chairman of the British Transport Commission, Sir Brian Robertson, has sent a telegram of condolence to Mr. G. Pande, Chairman of the Indian Railway Board.

Gradalls in the North Eastern Region.—As a result of operating experience with its first Gradall machine, the North Eastern Region has now obtained three further units. These multi-purpose machines are being used for general earthworks both on and off the track. The versatility of these all hydraulic machines and their ability to work within restricted areas with limited side and overhead clearances have proved especially useful. Tasks such as grading banks, excavating trenches, foundations, or on general track formation work which in the past were carried out by hand or hired equipment of a generally conventional type, are now being handled successfully by these units. The illustration shows one of the machines cutting back the slope of a cutting to provide greater clearance prior to electrification, working under the restricted headroom of telephone wires; it is fitted with a 60-in. bucket. The Gradall machine is distributed and serviced by Blackwood Hodge, John, & Co. Ltd., 25 Berkeley Square, London, W.1.

Formica Industrial Laminates.—Formica Limited, a recently formed subsidiary of Thomas De La Rue & Co. Ltd., has announced that all electrical and industrial laminates previously marketed as Delaron are now known as Formica industrial laminates, and the material previously marketed as Traffolyte engraving or printed material is now known as Formica engraving or printed material.

Camping Coaches on Exhibition.—Camping coaches, converted railway coaches designed especially for country and seaside holidays, are on exhibition at a number of Western Region stations to allow prospective hirers to see at first hand the advantages offered by this form of holiday camping. Stations at which the coaches are on view include Paddington, January 6-10; Slough, January 14-17; and Marylebone, January 20-24. Fully-equipped camping coaches with accommodation for eight people will be located at 25 inland and 24 seaside resorts, in various parts of the Western Region, from March to October.

Yorkshire Copper Works and I.C.I. Merger.—Negotiations have now reached a stage when the Yorkshire Copper Works Limited is in a position to submit its merger proposals with Imperial Chemical Industries Limited, to its shareholders for approval. It was announced in October last, that the two companies were exploiting methods of combining their activities in the copper and copper alloy tube and

One of the Gradall machines engaged on earthwork between York and Doncaster, North Eastern Region, preparatory to electrificatio

plate industry. The proposals provide for the formation of a new company, Yorkshire Imperial Metals Limited, to which the Yorkshire Copper Works Limited will transfer the whole of its business and to which I.C.I. will transfer that part of the undertaking carried on by its metals division. The proposals will be submitted to an extraordinary general meeting of the Yorkshire Copper Works Limited to be held in Leeds on January 27.

Accident in Warsaw Suburban Area.—Six people were killed and many injured last week when a Polish State Railways suburban electric train ran into the rear of an express near Warsaw.

Lake District Railway Steamer Reconditioned.—The steamer *Tern*, one of the four vessels of British Railways, London Midland Region, which plies on Lake Windermere during the summer, is being reconditioned and fitted with diesel engines and will be ready for the 1958 season. The four ships carried nearly 450,000 passengers last summer, an increase of some 50,000 over the 1956 season.

Special Trains for Blackpool Fancy Goods Fair.—A special restaurant car train is to be run from Euston to Blackpool daily from January 31 to February 4 for the Gifts & Fancy Goods Fair. Departure from Euston is 10.30 a.m. except on February 2, when the train will leave at 10.10. At the conclusion of the fair special trains will run from Blackpool to Crewe, Stoke, Birmingham, and London. The London Midland Region is also arranging a special diesel car train service to and from Blackpool and Preston during the period of the fair.

Engineering Work in Sevenoaks Tunnel.—Repairs to the lining of Sevenoaks tunnel have necessitated widespread temporary alterations to rail services on the Dover, Folkestone and Hastings (via Tunbridge Wells) lines of the Southern Region. The alterations will be effective from January 14 to January 25 and special posters and an eight-page pamphlet giving details of new train times have been prepared by the Region. At weekends, the line is being completely closed between Sevenoaks and Tonbridge. During these weekends some trains are being diverted. A special bus service is being run between Sevenoaks, Hildenborough, and Tonbridge.

John Bull Rubber Group.—The John Bull Group of companies (John Bull Rubber Co. Ltd., Metalastik Limited, and Precision Rubbers Limited) has added to its premises. Part of the John Richardson factory, Evington Valley Road, Leicester, has become available. The premises will be used by the John Bull Group principally to increase the accommodation for one of the John Bull subsidiaries, C.P. Engineering Co. Ltd., whose existing premises are inadequate. New plant and equipment will be installed to step up production of moulds. A three-storey building, which forms part of the premises, will be used for warehousing products, so centralising part of the overflow from the parent company's main premises in Evington Valley Road.

Ghana Minister of Transport Visits Aldenham Bus Works.—The Minister of Communications & Transport for Ghana, Mr. Yeboah Afari, made a special tour of the London Transport bus overhaul works at Aldenham on January 1. He was shown round by the Works Superintendent, Mr. A. F. Tame, and by the Chief Public Relations Officer of London Transport, Mr. R. M. Robbins. The Minister was accompanied by his Parliamentary Secretary, Mr. Amuaka Atta, by Mr. A. W. Ephson, Administration Officer of the Ghanaian High Commissioner's Office in London, and by Mr. C. Gainsford of the British Overseas Airways Corporation. Mr. Afari has been staying in Britain as the guest of B.O.A.C.

Faraday Lecture.—Following the death of Mr. G. H. Fletcher, recorded in our January 3 issue, arrangements have been made for Mr. R. Ledger, B.Sc.Tech., A.M.I.E.E., A.M.I.Loco.E. to deliver the remaining lectures in the 1957/58 series. Mr. Ledger is Deputy Chief Designer in the Traction Motor Department, General Electric Co. Ltd., Witton. The title of the Faraday Lecture, "The Electrification of the British Railways," remains unchanged.

London Midland Region to Extend "Novelty" Trips.—Forty-one million passengers took cheap trips on British Railways, London Midland Region, last year—5,000,000 by special day, half-day and evening excursions and 36,000,000 by cheap tickets by ordinary trains; 7,700 special excursion trains were run. "Novelty" excursions are to be extended by the London Midland this year, after successful experimental trips in 1957. There will be more cyling excursions, photographic excursions with prizes, and long-day rail and sea trips to the Scottish Highlands and islands from important stations in England.

Simms Group Re-organisation.—After the recent acquisition by Simms Motor Units Limited of the Motor & Electronics Corporation, considerable changes are proposed in the structure of the group, which now consists of 14 operating companies and one associated company. A diversity of interests is covered, including fuel injection equipment, electrical apparatus, turbochargers, general engineering, ventilating and heating, plastics, oil burners, domestic products, electronic components, switch gear, radio, television and radar accessories, and vacuum ware. At an extraordinary general meeting of shareholders held on December 31, 1957, approval was given to change the name of Simms Motor Units Limited to Simms Motor & Electronics Corporation Limited which becomes a holding company and will be responsible for co-ordinating the activities of the operating companies and the general planning and supervision of group policy.

V.H.F. Mobile Radio Equipment for Permanent Way Maintenance.—Mobile radio equipment manufactured by Pye Telecommunications Limited is being used by the Chief Civil Engineer, Eastern Region, for controlling the movement of track maintenance machines in the Sheffield District. Housed in a sturdy wooden cabinet for protection, the sets operate on a frequency of 86·475 m/cs. with a power supply obtained from a 12-V. battery. During track operations one set is installed in the controlling signalbox, the other accompanying the machine on the track. The signalman thus has instant communication with the track machine ensuring that it can be moved clear of approaching trains. Apart from increasing the efficiency of communications between the signalman and the track maintenance operator, the apparatus is stated to release men previously employed as intermediate signalmen. The equipment was supplied to the requirements of Mr. R. A. Green, Signal Engineer, Eastern Region.

Sale of Alcohol Prohibited at Russian Railway Stations.—The U.S.S.R. Government has prohibited the sale of alcohol, other than beer, at railway stations because of complaints about hooliganism by drunks. Recently the price of vodka and wine was raised by 20 per cent to cut consumption.

Permanent Way Institution Visit to Essen.—An invitation has been received by the Permanent Way Institution from Verband Deutscher Eisenbahn-Ingenieure E.V. (German Railway Engineers' Union) for a party of 50 members and ladies to visit Essen from Friday, May 9, to Sunday, May 11, to see a reclamation and repair depot, Krupps Works, and a Ruhr coal mine. Visits for the ladies will include the Persil factory at Dusseldorf and a flower show at Essen. The programme will provide for a civic reception, a river trip, and a sightseeing tour of the district. The party is expected to travel via Harwich and Hook of Holland, leaving London on Thursday evening, May 8, arriving back in London on Monday morning, May 12.

U.S.S.R. Transport in 1958.—The U.S.S.R. transport plan for 1958 provides for the railways conveying more than 82 per cent of the total freight in the country. During the year further effort will be concentrated on the technical re-equipment of railway transport, the introduction of electric locomotives and diesel traction, and increasing the carrying capacity and developing the network of railways in the Urals, Siberia, and the Volga regions. The conversion to electric and diesel traction for freight carriage will mean that the carrying capacity of the railways will be enlarged; the weight of trains is to be increased, transport expenditures are to be substantially reduced, and the cost of freight transport is to be reduced by 20 to 25 per cent.

New Freight Service Between London and Bristol.—A new express freight service facility in each direction between London and Bristol was introduced on January 6 by British Railways, Western Region. For £5, traders can hire, for their exclusive use, a covered van or an open wagon on a new London to Bristol overnight freight service which runs nightly in each direction from Mondays to Fridays inclusive. The van or wagon can be loaded with merchandise up to the capacity weight of 12 tons. All the trader need do is to provide cartage to and from the railway station and perform loading and unloading of the railway vehicle. Loading at Paddington St. Ervan's Road can be performed up to 8 p.m. Vans and wagons are available for discharge at Bristol Pylle Hill at 6.30 a.m. next day. Loading at Bristol Pylle Hill can be undertaken up to 7 p.m. and unloading commenced at St. Ervan's Road at 6 a.m. next morning.

Holyhead/Dublin Cargo Service Improvements.—Progress on the modernisation of the port terminals at Dublin North Wall and Holyhead to deal with the cross-channel cargo and livestock services is reported by the London Midland Region. At Dublin North Wall, part of the Riverside Shed has been demolished and is to be rebuilt when two 7½-ton electric transporter cranes have been erected. An area for the reception of dutiable goods and "free" heavy traffics has already been

completed. Included in the scheme is a single-storey building housing a covered deck and offices. A new reception deck and non-dutiable cargo shed have been erected alongside the existing Customs transit shed. At Holyhead, complementary to the work at North Wall, transporters of a similar design are being erected at the export and import sides of the harbour to replace the old hydraulic cranes. Demolition of part of the sheds has been completed, and the foundation work for the transporters is well in hand. Other ancillary work, such as new shed offices, additional siding accommodation, and lighting in the yard, has been carried out.

Swiss Express Derailed.—The Berne-Brigue express was derailed on the Berne-Loetschberg-Simplon line on January 7 when it crashed into rocks that had fallen on to the rails after a storm. There were no casualties.

Associated Engineering Holdings Limited.—Mr. H. R. Moore, Chairman of Associated Engineering Holdings Limited, has announced that all sections of the group's business have made an encouraging start in the year to September 30, 1958. The present level of activity generally, he states, is as high as at any time in the past. The motor industry is now operating at a high level of activity and the prospects for the coming year are encouraging. This applies particularly to the passenger car section of the industry, products for which account for approximately 40 per cent of the group's turnover. During 1956-57 capital expenditure amounted to £1,527,000. Sanctioned schemes totalling £1,950,000 were in hand at September 30, last scheduled for completion over the next two years, against which commitments of £840,000 had been made. Group net profits were £1,030,700 (£1,051,325), and the ordinary dividend 20 per cent (same).

Prospects of the Steel Company of Wales Limited.—In his statement for 1956-57, presented last month, Mr. H. Peake, Chairman of the Steel Company of Wales Limited, commented on the prospects facing his company. He stated that the company was in a good position to take advantage of continued industrial activity at home and abroad, and production at all works was likely to increase this year. Competition in world markets, particularly for tinplate, was becoming keener, however, and quality and price factors were more important than ever. At present, Mr. Peake continued, the directors of the company saw no reason to modify the expectation expressed previously, that by this January the trading profit should be running at the rate of £70m. a year. The year ended September 28 last was one of "excellent" progress. The record trading profit of £18,980,450 was largely due to increased production from completion of the second development plan and also to operating improvements. The final dividend of 3½ per cent was as expected.

Re-nationalisation of Steel Industry.—In a statement to the shareholders Sir Ellis Hunter, Chairman & Managing Director of Dorman, Long & Co. Ltd., observes that the intention of the Socialist Party to re-nationalise the steel industry ignored the outstanding contribution that it had already made, and was continuing to make, to the well-being of the nation, under the supervision of the Iron & Steel Board appointed by the Government. "The industry has modernised and expanded its capacity and, with active co-operation from its employees, has raised production to an exceptional degree. By providing increasing supplies of steel at highly competitive prices, it has, both directly and through exports of manufactured goods by home consumers of steel, done much to fill the gap left by the coal and textile industries in our export trade, thus enabling full employment and a high standard of living to be maintained in this country. The immediate effect of the threat is to make it more difficult to secure additional capital for further modernisation and expansion of industry." Reporting that the company's output of steel ingots had risen by 62,267 tons during the year to 2,118,715 tons, he states that generally orders booked for rolled steel had been well maintained. It would be optimistic, however, to assume that the effects of the credit squeeze and the high bank rate would not be felt.

Last Steam Locomotive on Netherlands Railways.—The last steam locomotive on the Netherlands Railways is reported to have made its last journey on January 7 to Utrecht, where it is to be put in the open-air railway museum. Steam traction on passenger lines was abandoned some time ago, and from now on all freight trains will be either electrified or hauled by diesel locomotives.

Canadian National Railways Bond Issue.—A $300 million issue of 4 per cent bonds which will mature in 23 years has been announced by the Canadian National Railways. The bonds are being offered at 97 to make a total yield of 4·2 per cent at maturity. They are non-callable, and are guaranteed unconditionally by the Canadian Government. The loan will be used by the Canadian National Railway to repay temporary interest-bearing capital advances from the Government.

Excursions for Rugby International.—Many rail excursions have been arranged to take rugby supporters to the Scotland v. France match at Murrayfield tomorrow. Special trains from Glasgow to Haymarket and Edinburgh Waverley will leave Queen Street Station at 11.15 and 11.38 a.m., returning from Waverley at 4.35 and 10.10 p.m. and Haymarket at 4.40 and 10.14 p.m. A special train to Gorgie East will leave Queen Street at 12.45 p.m., returning from Gorgie East at 4.44 p.m.

South African Railways General Manager Visits Australia.—The General Manager of the South African Railways, Mr. D. H. C. du Plessis, recently visited Australia with Mr. B. J. Schoeman, Minister of Transport. While there, they inspected diesel railcar sets. On his return Mr. du Plessis announced that the South African Railways would soon be calling for tenders for inter-urban railcar sets. He also stated that an Australian company, the Commonwealth Engineering Co. Ltd., might build works in the Union.

Dorman, Long & Co. Ltd.—The trading results for the year ended September 30, 1957, of Dorman, Long & Co. Ltd. will be given at the annual general meeting which will be held in London on Wednesday, January 29. After charging depreciation based on historical cost, transferring £1,500,000 to the Fixed Assets Replacement Reserve of Dorman Long (Steel) Limited (the previous year the amount was £1,250,000), and charging £675,183 (£449,970) for Provision for Relinings, Repairs and other purposes the group profits before taxation amounted to £8,631,977. From this there is to be deducted the profits of subsidiary companies attributable to outside shareholders, approximately £441,000 before taxation. This leaves approximately £8,191,000. The proposed final dividend on the ordinary shares is 6 per cent (5 per cent).

Westinghouse Brake & Signal Co. Ltd. Results.—The group trading profit of Westinghouse Brake & Signal Co. Ltd. for the year ended September 28, 1957, was £2,143,466, compared with £1,733,122 in the previous year. After deducting interest on loans and bank overdrafts, provisions for taxation, and sundry expenses, the net profit was £554,870 (£503,758). The directors propose to recommend the payment of a dividend of 10 per cent as against an equivalent of 9 per cent last year.

Redundancy at Dundalk Works.—Seventy men were stated recently to be redundant at the Dundalk Works of the Great Northern Railway (Ireland). Mr. A. P. Reynolds, chairman of the new Dundalk Engineering Company which is to take over the locomotive works, informed trade union representatives that he had been informed of the redundancy position by the G.N.R. Board. The redundancy, he stated, would be dealt with on the following basis: first, men over 65 would be paid off on the change over of control; later, another 50 would be dealt with on the basis of improvers and short-service employees.

Forthcoming Meetings

January 10 (*Fri.*).—Institute of Transport Northern Section, at the Royal Station Hotel, Newcastle-upon-Tyne, at 7 p.m. Paper on "Transport in modern times," by Major-General G. N. Russell.

January 11 (*Sat.*).—Permanent Way Institution, East Anglia Section, at Cambridge at 2.15 p.m. Debate: "Maintenance, old v. new methods." For old methods—Messrs. G. W. Baker and H. S. Bullard. For new methods—Messrs. W. A. Sutton and A. H. Gorham.

January 11 (*Sat.*).—Railway & Canal Historical Society, at the London Transport Executive Library, 55, Broadway, London, S.W.1. Talk by Mr. Charles F. Klapper on "The Mid-Kent Line."

January 13 (*Mon.*).—Institute of Transport, at the Jarvis Hall (R.I.B.A.), 66, Portland Place, London, W.1, at 5.45 p.m. Paper on "Railway freight traffic operation in the light of railway modernisation," by Mr. C. P. Hopkins.

January 14 (*Tue.*).—Railway Correspondence & Travel Society, East Midlands Branch, at the N.C.S. Guild Room, Toll Street, Nottingham, at 7.30 p.m. Paper on "Locomotive working," by Mr. P. Bagguley.

January 14 (*Tue.*).—Institute of Transport, Portsmouth Group, at the Chamber of Commerce, Portsmouth, at 7 p.m. Paper on "British Railways—Isle-of-Wight Shipping," by Mr. E. P. W. Robins, Divisional Manager, Shipping and Continental Department, British Railways, Southern Region.

January 15 (*Wed.*).—Institution of Railway Signal Engineers, London Section, at the Institution of Electrical Engineers, Savoy Place, Lon-

don, W.C.2, at 6 p.m. "Electronic switching"—informal lecture by Mr. N. C. Smart (G.E.C. Telephone Works).

January 16 (*Thu.*).—Institute of Transport, East Midlands Section, at the Mechanics Institution, Nottingham, at 1 p.m. Paper on "The problem of passenger transport in small towns and rural districts," by Mr. C. S. Dunbar.

January 16 (*Thu.*).—Institute of Transport, Northern Ireland Section, at 21, Lineaball Street, Belfast, at 6 p.m. Paper on "Standards and incentives in the transport industry," by Mr. R. J. Clarke, Senior Consultant, Production Engineering Limited.

January 16 (*Thu.*).—Model Railway Club, at Caxton Hall, Westminster, S.W.1, at 7.45 p.m. Talk on "Dugald Drummond as I knew him," by Mr. S. R. Arnold.

January 17 (*Fri.*).—Railway Correspondence & Travel Society, London Branch, at the Railway Clearing House, Eversholt Street, London, N.W.1, at 7.15 p.m. Paper on "The Midland Railway's London extension," illustrated by lantern slides, by Mr. S. Summerson.

January 17 (*Fri.*).—Institute of Transport, Tees-side Section, at the Cleveland Scientific & Technical Institution, Middlesbrough, at 7 p.m. Paper on "American visit," by Mr. A. R. Dunbar.

January 21 (*Tue.*).—Railway Correspondence & Travel Society West Riding Branch, at the B.R. Social and Recreation Club, Aire Street, Leeds, 1, at 7.30 p.m. Paper on "Transport treasures," illustrated by lantern slides, by Mr. J. H. Scholes, Curator of Historical Relics, B.T.C.

January 21 (*Tue.*).—Railway Correspondence & Travel Society, West Midlands Branch, at 64, Holyhead Road, Coventry, at 7.30 p.m. Paper on "The Yorkshire Moors and in the Cleveland Hills," by Mr. H. D. Botwell.

January 24 (*Tue.*).—Institute of Transport, Metropolitan Graduate & Student Society, at 88, Portland Place, London, W.1, at 5.45 for 6.15 p.m. Paper on "Operational research in London Transport," by Mr. R. A. Wright (Graduate).

January 22 (*Wed.*).—British Railways (Southern Region) Lecture & Debating Society, at the Chapter House, St. Thomas' Street, S.E.1, at 6 p.m. Paper on "Recent devolpments in permanent way," illustrated by lantern slides, by Mr. L. G. B. Rock.

January 22 (*Wed.*).—Railway Correspondence & Travel Society, West Midlands Branch, at the Arden Hotel, Birmingham, at 7.30 p.m. Talk by Mr. H. F. Carrier, illustrated mainly with Midland Railway slides by the late Mr. F. Carrier.

January 23 (*Thu.*).—British Railways Western Region) London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "The London Airport," illustrated by slides, by Mr. G. J. H. Jebbs, Commandant, London Airport.

January 23 (*Thu.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1, Birdcage Walk, London, S.W.1, at 5.30 p.m. Paper on "a new method of assessing the riding of vehicles and some results obtained," by Mr. J. C. Loach.

January 23 (*Thu.*).—Permanent Way Institution, Manchester & Liverpool Section, in the Everton Room, Exchange Hotel, Liverpool, at 7 p.m. Joint meeting with the Liverpool Branch of the Signal & Telegraph Technical Society. Paper on "Permanent way work and the operating department," by Mr. Fairclough.

January 25 (*Sat.*).—Permanent Way Institution, at the Institution of Civil Engineers, Great George Street, S.W.1, at 2.30 p.m. Annual winter meeting. Followed by a conversazione at the British Transport Commission Headquarters, 222, Marylebone Road, London, N.W.1, at 5.30 for 6 p.m.

Railway Stock Market

Business in stock markets remained on a very limited scale, but firmer conditions were in evidence, as sentiment had been helped by a further improvement in British Funds. The latter reflected the strength of the £, which touched its best level in terms of the dollar for three years. Nevertheless, the underlying reason for the rise in gilt-edged stocks is the belief that sooner or later the Bank rate will go down to 6 per cent; in general, however, the view in the City is that an early change is improbable. Company results continue to make a very mixed showing with the prevailing trend to lower profits, partly because the rise in costs has not ceased, and partly because of increased competition both at home and abroad. The inference is that if this continues there may be a fair number of dividend reductions this year; on the other hand, it can be argued that this possibility has already been more than discounted in share prices and that, all points considered, the latter would probably show strong response if markets generally were to become active.

Chilean Northern 5 per cent debentures changed hands down to 35 and were quoted at 36½xd., while Costa Rica ordinary stock was 16½, the first debentures 70½xd. and the second debentures 89. Brazil Railway bonds were quoted at 5½. Elsewhere, Paraguay Central prior debentures were 12. Guayaquil & Quito first debentures were 95 and the assented bonds 77½xd. International of Central America common shares were again quoted at $18½ and the preferred stock at $127. Mexican Central "A" debentures eased from 72 to 71¼.

Antofagasta ordinary stock failed to rally after its recent sharp decline, and at 19 was in fact fractionally lower than a week ago, while the preference stock declined afresh from 37 to 35½xd. The 4 per cent perpetual debentures were 43½xd. and the 5 per cent Bolivia debentures 93½.

San Paulo Railway 3s. units remained at 2s. 1½d., while in other directions, United of Havana second income stock was 7¼ and the consolidated stock was quoted at 2.

Business around 10s. 3d. was recorded in Nyasaland Railway shares; the 3½ per cent debentures were 57½. Emu Bay 4½ per cent debentures were 45 and Midland of Western Australia ordinary stock was quoted at 7½.

Canadian Pacifics have improved to $45¼, with the 4 per cent debentures £63 and 4 per cent preference stock £53 xd. White Pass shares were $13¼, the 5 per cent convertible debentures £55, and 5½ per cent unsecured loan stock £22½ xd.

Movements among shares of locomotive builders and engineers were again small and without any special trend. Birmingham Wagon were firmer at 17s., also North British Locomotive at 12s. 10½d. Hurst Nelson, after easing, rallied to 26s. 6d. G. D. Peters kept at 28s. 1½d. Gloucester Wagon 10s. shares at 13s. 9d. and Wagon Repairs 5s. shares at 13s. 3d. have been well maintaned.

Beyer Peacock 5s. shares strengthened from 8s. to 8s. 3d. and Charles Roberts were also 8s. 3d. In other directions, British Timken were 42s. "ex" rights to the new shares which were 22s. 9d. premium over the issue price of 20s. The 10s. shares of the Dowty Group were 31s. 1½d., Leyland Motors have strengthened to 42s. 6d., and B.S.A. kept steady at 26s. 7½d., while British Oxygen changed hands around 32s. and British Aluminium around 41s. 9d. Pressed Steel 5s. shares were 13s. 7½d. Moreover, buyers have been about for T. W. Ward, which moved up to 71s. 9d. Elsewhere, Tube Investments were 53s., Renold Chain 32s. xd., Ransomes & Marles 5s. shares 9s. 9d., and Serck 5s. shares 11s. 6d. F. Perkins 10s. shares have been firmer at 10s. 1½d. and George Cohen 5s. shares were 10s. 3d.

Associated Electrical were 48s. 3d., General Electric 38s. 3d. and English Electric 47s. Westinghouse Brake have strengthened to 34s. 6d. on the excellent results. Babcock & Wilcox moved down to 52s., awaiting full terms of the new issue. Steel shares were better on the move by Mr. Andrew Stewart to oppose the Labour Party plan for re-nationalisation. Stewarts & Lloyds shares improved to 22s. xd. and United Steel were 20s. 3d. Steel Company of Wales were 16s. 6d. in front of the full report and annual statement.

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